PAGE 6 PUBLISHING's

NEW ATARI USER

Issue 55 £1.95

April/May

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ST FILE

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Join the growing band of street demons - those fearless horders who terrify the population of the big cities to get the parcels through. Plan your moves to make some money, but don't take too long - time is always short. Gain an instant macho rating and be a despatch rider with this all action simulation



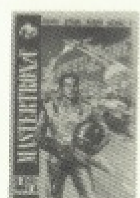
INVASION

Mobilize your units and prepare for battle. This all action space conflict requires skill, strategy and tactics. You must destroy the weather control station in order to win the battle but every move you make the enemy will counter, and they're waiting for you to make just one fatal slip up



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Special Assignment. Rescue the hostages from the terrorist gangs holding out in West L.A. Clean up the streets. Blow away the bad guys and be a hero on network T.V.! Fail and you won't be coming back to watch it. All action joystick bending combat for those with the skill to survive!



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Enter the Speedzone in a frantic defence against marauding alien forces. A survey ship sent into the area comes under attack. As an enemy vessel draws closer your "STARFIRE" class attack craft is launched



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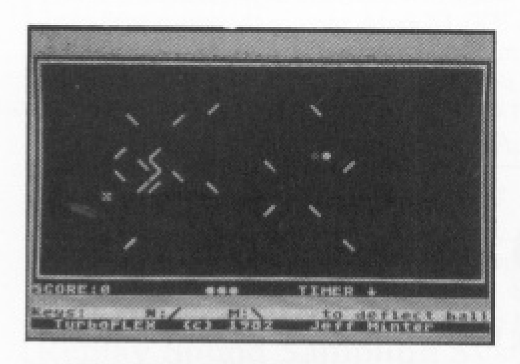
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'The magazine for the Dedicated Atari User'

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TURBOFLEX

Jeff Minter's first Atari game - in Basic but with much of the style that was to come

SUBSCRIPTIONS

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NEW ATARI USER ON DISK

A disk containing all of the 8-bit programs from each issue of NEW ATARI USER is available either separately or on subcription. Single price £2.95 per disk, Subscription rates (6 issues)

UK	£25.00
Europe	£32.00
Elsewhere (sea)	£32.00
Elsewhere (Air)	£42.00

Please make cheques payable to PAGE 6 PUBLISHING and send to the Editorial address shown below

SUBMISSIONS

PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it! Appropriate payment will be made for all published programs and articles, all payments being made at the end of the second month shown on the cover of the issue concerned.

The next issue of NEW ATARI USER will be on sale 28th May
Editorial copy date is 20th April

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PAGE 6 PUBLISHING's NEW ATARI USER

Editorial

Issue 55
April/May 1992
'The Magazine for the Dedicated Atari User'
ISSN No. 0958-7705

THE CREDITS

All of the usual stuff is on page 3 but here are the people who made this issue possible.

Les Ellingham did the usual typesetting, layout and general getting together ploughing on as usual but, not having had his usual holiday at Christmas, was feeling the strain and so found it difficult to think of anything clever to put here this issue! Holiday coming up though!

Sandy did everything around the office apart from the things Paulette did

Paulette did all those things that Sandy didn't do

(Told you I couldn't think of anythign very clever to say!)

The Regular Contributors, who provide the backbone of the magazine and can generally be relied upon to come up with good articles and reviews, are ....

John S Davison	**John Davison jr**
John Sweeney	**Paul Rixon**
Damon Howarth	**Ian Finlayson**
Dion Guy	**The Tipster**

All other contributors for this issue are individually credited alongside their articles or programs. Thanks to everybody for sharing their enthusiasm with other Atari users.

The piccie on the cover should be Jeff Minter's **TURBOFLEX** but, to be honest, it is not very colourful so it may be something else, as yet unknown. If it changes, we'll let you know next time what it was

Believe it or not only two or three CD's have been played so far in over a week of typesetting, but they have been played so much as to be nearly worn out! Heading the short list is Bruce Cockburn's Nothing But A Burning Light which I thought was quite lightweight at first but grew and grew. It also has one of the finest instrumentals of all time, up there with that other classic Rockport Sunday. Tell you what, a free CD to the first person who writes in and tells me who recorded Rockport Sunday! The other one to get played was The Cowboy Junkies' Black Eyed Man, not quite as laid back as their others but still in that vein. One track features John Prine, one of the greats who makes few records nowadays. Rumour has it that those ISB CD's are now out but you try buying such rarities outside London. Oh yes, before I go I must thank Ann O'Driscoll for reading this column and very kindly sending me the Micheal O'Suilleabhan CD. Thanks, Ann! Nearly forgot The Saw Doctors - bet not many of you know them but Ann should!

The next issue of NEW ATARI USER could feature YOUR article or program, so SEND IT IN NOW!

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! With the exception of the final output on a Linotron and the use of an in-house repro camera for the photos and listings everything is done on the ST. Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, an Atari Laser Printer, Citizen 124D printer, Philips CM8833 monitor, 130XE, XF551 disk drive, 810 disk drive, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, Tari-Talk, Turbo Basic and various custom written programs on the XL/XE. Articles and programs submitted on XL/XE disks are subjected to various custom written programs before being transferred across to the ST via TARITALK. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. A disk with the finished pages as Postscript files is sent to a typesetting bureau to be output on a Linotron and, hey presto, finished pages are sent back exactly as you see them. It really does work! All that is left is to drop in the listings and photos.
Well, it's not quite as easy as that but you get the idea!

THE RECESSION IS OVER?

Like almost everyone nowadays we are feeling the effect of the recession and so have to make some economies as you'll see from this issue. Some things, like the laminated cover, were introduced to give the magazine more impact on the newsagents shelves but, now that we are on firm sale with regular established customers, they are not so important. Another saving comes from dropping the colour section which introduced the ST File, a disappointment for those who like to see a few colour shots of games but not something which really affects the content.

One of the main effects of a recession is not that it directly hits any one company but that it affects all of the customers and clients of a company. Advertising revenue drops away as companies go in other directions or go out of business, customers who buy software don't buy quite so much and all the little things add up. The funny thing is that the government say that the recession has ended but for many of us it feels like it has only just begun! The first half of last year was fine as far as we were concerned, not really different from any other year. Then, about September time, the government announced that the recession had ended and we suddenly found out what the recession was all about! The last half of the year was very poor in comparison to previous years and it has still not picked up.

In a strange way, one of the comforting thoughts is that we are not alone. Many of the retailers involved in the computer trade had a very poor Christmas with sales, in some cases, down 50% on previous years. Outside the computer trade, things are just as bad. How many shops do you know that have closed down in the last six months?

WE WILL SURVIVE!

In a large company, loss of revenue means loss of jobs and possible closure and that is one of the reasons why our customers don't spend as much. For the first time ever we have had letters from readers saying that they cannot renew subscriptions because they are out of work. One of the benefits of being in a small organisation, however, is that we can batten down the hatches, trim costs and carry on regardless! Believe me, we will carry on until there are no Ataris left on the planet!

Of course, we need your help not only in continuing to read the magazine and supporting the Accessory Shop but also in sending in articles and programs. For the first time in this issue you will find details of cash that can be earned by having your programs or articles published. In comparison with many other magazines, the amounts are not large but then we don't have the circulation or advertising income of the mega magazines. Most people who write articles and programs for the Atari do so out of love for the machine and to get paid a few bob, plus the thrill of having an article or program published, is an added bonus. We have always worked on that basis - turning away the professional freelance - since we believe that people who write because they are really interested in sharing discoveries and creations with others come up with something much more interesting.

So, we have to tighten our belts, and I know that many of you have to tighten yours but not too much please, we need you to keep buying the magazine and keep buying stuff from the Accessory Shop! We also need those games, utilities, articles and anything you can think of for publication, so knock something up in all those free hours you have because you can't afford to go out any more!

The recession is over? Don't you believe it. The only difference is that you have to adapt and learn to live with it. Maybe that is what is happening to the politicians. It is a bit like having a pain in your side for years. You don't notice it after a while and then someone says 'How's the pain?' and you have to stop and think a while before saying 'Oh, it's much the same.'

Les Ellingham

Mailbag

Write to Mailbag, Page 6, P.O. Box 54, Stafford, ST16 1DR

TESTING RAM

I have had a problem with bad extended RAM in the 130XE. As you may know, extended memory RAM chips in the 130XE are not tested by the self test. I used a Basic program from the SAM's 130XE Repair Manual to test extended RAM but, due to copyright, it can't be reprinted here. For the benefit of 130XE users here is my own quicker version of that program.

```
10 ? "130XE EXTENDED
   RAM TEST"
20 FOR BANK=225 TO 237
   STEP 4
30 POKE 54017, BANK
40 FOR ADDRESS=16384
   TO 32767
50 POKE ADDRESS,0
60 IF PEEK(ADDRESS)<>0
   THEN ? "BAD RAM AT
   ";ADDRESS:END
70 POKE ADDRESS, 255
80 IF
   PEEK(ADDRESS)<>255
   THEN ? "BAD RAM AT
   ";ADDRESS:END
90 NEXT ADDRESS
100 NEXT BANK
110 ? "RAM O.K.":END
```

Runtime is 25 minutes and the machine needs to be turned off afterwards since the RAMdisk is overwritten.

John Steyck
Australia

PROGRAMMING CHALLENGE

Do you know of any scheduling programs which could be used for sporting events? It has often occurred to me that this is a perfect task for a computer yet, to my knowledge, no such program exists for our 8-bit machine.

The usefulness of such a program is clear. All communities offer a variety of league sports for children and adults and each league requires a schedule. The sports may be different but the elements to making up a schedule are common to all:

a) a certain number of teams ... b) a certain number of time slots ... c) the objective that each team play every other team an equal number of times

Sounds simple but ....

Since so many combinations would be available, the program should allow for recalculation. You would also want to be able to save and load schedules and print them out. You would want to see the results before printing them out, so you would have to figure some method of displaying them on screen, perhaps in a scrolling spreadsheet fashion.

A major decision would be to determine how many teams the program could handle. I suspect a maximum would be in the order of 12 to 25 as any league larger than that usually gets broken up into tiers or divisions which can be handled separately.

As for number of games, I'd suggest as a starting point time slots for 5 or 6 per day for a period of about 15 weeks. Five or six daily time slots should be enough to cover the period between 6pm and midnight when most recreational games are played.

Different sports have different seasons, which vary in length. I'd suggest that the program be able to handle a 15 week period. In my experience any sporting season longer than 15 weeks is broken up into halves with each half being scheduled separately.

If you wanted to add more bells and whistles you could:

- **increase the number of teams, total games and daily time slots the program could handle**
- **allow for more than one location (e.g. games might be played at more than one rink, or ballpark, or pitch, with the result that more than one game might be played at the same time)**
- **make user input as simple as possible (the optimum would be for the program to prompt you to enter all team names, weekly game times, and length of scheduling period, and then basically do the rest for you)**
- **design a fancy or colourful screen display**
- **allow for partial or limited recalculation (e.g. keep teams 1,2 and 6 the way they are, but recalculate the rest)**
- **optimise printout format so that it is clear enough and complete enough to post on a bulletin board without need for further modification or retyping.**

Well, there it is. I thought it might make an interesting project for a programmer with greater skills than my own.

Ed Hall,
Yellowknife
Canada

Over the years we have had many requests for programs that keep league tables or create schedules for sports and recreational events but, like Ed, we have never come across one. Here is the outline, can anyone come up with the goods? If you do, send in the program and we'll send it off to Ed for testing. If it turns out to be what is needed we'll either print it in the magazine or issue it on a disk for the benefit of all. A word of warning though before you begin. This seems like a simple enough project but the combinations are so vast that the program is likely to be quite complex. I know someone involved in a Health Farm where they have to schedule treatments for clients throughout the day and they still do it all by hand as, despite asking several computer consultancies, nobody can come up with a program that takes all possibilities into account! It might just be a little harder than you think and will probably need a good grounding in maths as well as skill in in programming.

VIDEO CONNECTION

Have you ever tried to connect your Atari to your video recorder in order to record some of your computer output, only to be confronted with a screen full of wiggly lines?

The reason for this is the computer uses the same channel as the recorder and when the incoming signal is received by the recorder it is distorted by the outgoing signal. There is a very simple cure. On the rear of your recorder you will find an adjustment screw, usually located near the AE and RF Output sockets. Using a small screwdriver, turn the screw slightly to the left or right which will alter the output channel of the recorder and leave the input signal free of interference.

You should now have a distortion free picture when you connect you computer to the video. Normal video signals will not be affected and a slight adjustment to the tuning of the video channel on your TV will correct any disturbance.

Gerald Hardware
Birmingham

OOPS ...

I just though that you might like to know that the tips for Pro Mountain Bike that you put in Issue 53 are actually for Mountain Bike Racer.

I would be most grateful if anyone could tell me the name of a game which I have been looking for for 4 years. You are a little blue man and you are in these sort of underground caverns but you are getting chased around by this little centurion type bloke (or a knight) and a little blue woman. There was also a big yellow machine and you went round the screens trying to reach your objective.

James Rigby,
Hitchin

WHERE CAN I FIND ....

The Atari 8-bit computers are, without question, the finest home computers ever designed and can still hold their own against any home computer. More powerful than any 8-bit and much easier to access than any 16-bit, it is a great pity that software and hardware support is dwindling. You can still find support for your machine, though, and this directory should get you on the right track. It is by no means comprehensive and we would be happy to receive details of any other companies, anywhere in the world that still support Atari.

We cannot guarantee what response you might get if you write to any of these companies, but give it a try, they need your support as much as you need theirs. Stick a couple of International reply coupons in an envelope and, if you don't get a reply, the most you lose is a few bob. But if you do get a response, it could open up a whole new world and add years to the useful life of your Atari.

Software Infinity
642 East Waring Avenue
State College, PA 16801
Good PD selection. Have just begun marketing commercial games from overseas

DataQue Software
PO Box 134
Ontario, OH 44862
Turbo-816 16-bit upgrade board, TransKey hardware for using IBM keyboards on the 8-bit, and other hardware

B&C ComputerVisions
3256 Kifer Road
Santa Clara, CA 95051
(408)749-1003
Huge selection of software and hardware items. Also some new commercial games, unavailable elsewhere

Sagamore Software
2104 Arapahoe Dr
Lafayette, IN 47905
Good PD/shareware selection with extensive documentation

Change In Heat
12 Bella Vista Place
Iowa City, Iowa 52245
Independent programmer has produced 2 excellent commercial quality games for the 8-bit

Bresnik Software
555 Ware Street
Mansfield, MA 02048
Another independent, producing good educational software

UltraBasic
10 East 10th Street
Bloomsburg, PA 17815
8-bit speciality software

NERDS Software
18 Wendy Drive
Farmingville, NY 11738
Printshop related software

IB Computers
9244 S.W. Beaverton-Hills Hwy
Valley Plaza Shopping Center
Beaverton, Oregon 97005
(503)297-8425

BellCom
PO Box 1043
Peterborough, Ontario, Canada K9J7A5
The largest PD/shareware selection

Compsult
PO Box 5160
San Luis Obispo, CA 93403-5160
Closeout items galore

No Frills Software
800 East 23rd Street
Kearney, NE 68847
Closeouts & Printshop graphics

Miles Better Software
219/221 Cannock Road, Chadsmoor
Cannock, Staffordshire
WS11 2DD
England
Surely known to everybody and, apparently highly regarded in the USA

Electronic Clinic
4916 Del Ray Ave
Bethesda, MD 20814
Refurbished equipment

Kake Software
9 Smith Ct.
Vincentown, NJ 08088
Assorted theme disks

Bacmun Software
1671 East 16th Street, Suite 629
Brooklyn, NY 11229
PD theme disks

Alpha Systems
1012 Skyland Drive
Macedonia, OH 44056
Utility software & hardware

American Technavision
15338 Inverness Street
San Leandro, CA 94579
(415)352-3787
Large selection of commercial software at closeout prices, and hardware replacement parts

Best Electronics
2021 The Alameda, Suite 290
San Jose, CA 95126
(408) 243-6950
Known as *the* Atari hardware store. If they don't have the part you need, nobody does

BRE Software
352 West Bedford Ave, Suite 104
Fresno, CA 93711
PD/Shareware

C&T ComputerActive
PO Box 893
Clinton, OK 73601

MWPDS
890 North Huntington St.
Medina OH 44256

Phantoms Atari 8-bit
Box 331 Levisa Road
MouthCard, KY 41548

Vulcan Software
PO Box 692
Manassas VA 22111-0692

Walt Huber
644 East Clinton
Atwater, CA 95301
Discontinued software galore, as well as some original programs

Innovative Concepts
31172 Shawn Drive
Warren, MI 48093
(313)293-0730
Accessories, hardware, PD software

CSS
PO Box 17660
Rochester NY 14617
(716)586-5545
Speciality hardware items, 8-bit repair service

San Jose Computers
640 Blossom Hill Road
San Jose, CA 95123
(408)224-8575
New and reconditioned hardware and software

Entertainment Excellence
1805 Princeton Place
Merrick, NY 11566
Discontinued 8-bit software

East Hartford Computer
202 Robert Street
East Hartford, CT 06108
Discontinued software for all computers

Aerion Software
PO Box 1222
Riverdale Station, NY, NY 10471-1222
Markets a new 8-bit commercial game

Toad Computers
556 Baltimore Annapolis Blvd
Severna Park, Maryland 21146
(301)544-6943
Now offers a selection of software and reconditioned hardware

Stourbridge User Group
99 Bredon Road
Stourbridge
West Midlands DY8 4LA
England
(0384) 379575
Large PD/Shareware library

Gralin International
11 Shillito Road, Poole
Dorset, BH12 2BN
Hardware and software, including ICD products

Micro Discount (Derek Fern)
265 Chester Road
Streetly, West Midlands
(021) 353 5730
Large selection of commercial software, also hardware and replacement parts

Tiger Developments
26 Menziers Avenue
Walmer, Deal
Kent
CT14 7QZ
Commercial 8-bit software

Next, is a list of magazines still supporting the 8-bit Atari.

Current Notes
122 North Johnson Road
Sterling, VA 22170
A truly excellent Atari-oriented magazine, supporting both 8-bit and ST

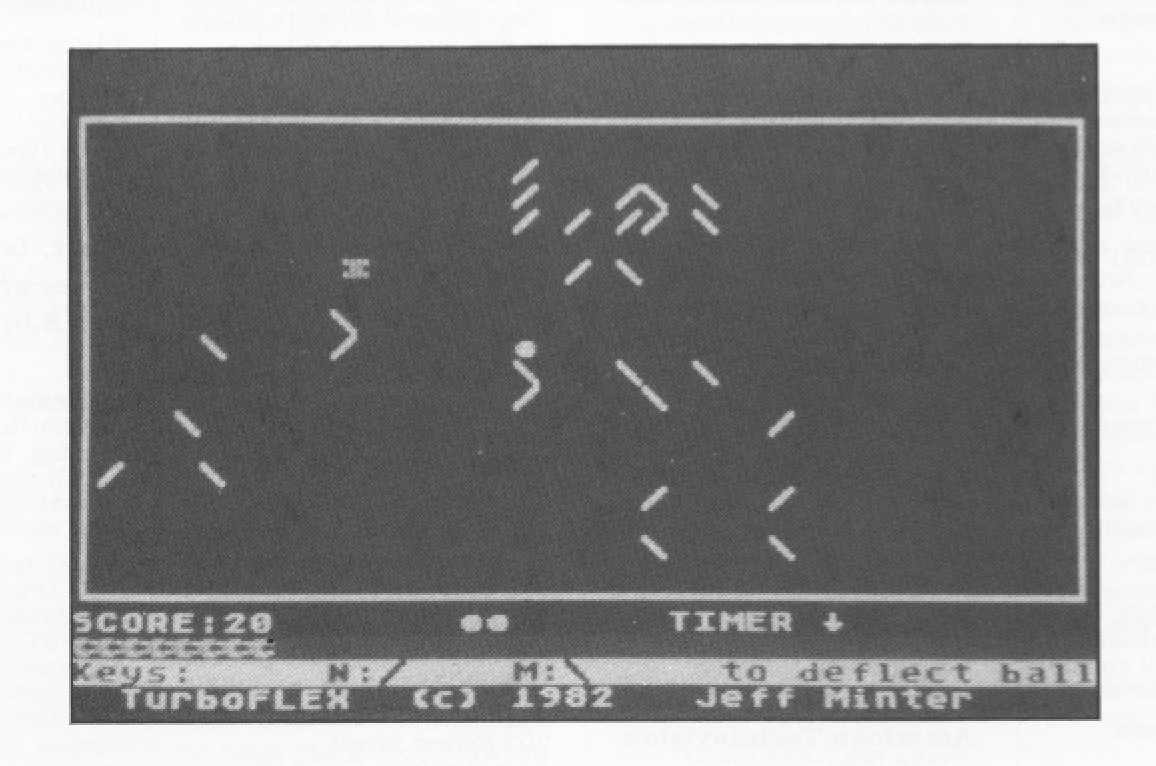
Atari Interface
3487 Braeburn Circle
Ann Arbor, MI 48108
(313) 973-8825
A magazine supporting both 8-bit and ST, with input from Atari User Groups in the US, Canada and the UK. They also produce a monthly Atari 8-bit disk

New Atari User (PAGE 6)
P.O. Box 54
Stafford, ST16 1DR
England
0785 213928
A professionally produced magazine supporting both 8-bit and ST, also large PD library for both machines and commercial software

EXCEL (Robert Stuart)
21 Stronsay Way
Broomlands
Irvine, Strathclyde
KA11 1HZ
Scotland
Disk based magazine and commercial software

This list was originally published by the US disk magazine AIM in July 1991 and updated by Stourbridge User Group whose address you will find included above. Many thanks to them and to all who are still supporting the 8-bit. Long may it continue!

Jeff Minter's TURBOFLEX



How often do you get the chance to type a little bit of history into your Atari? Everyone must, by now, know of Jeff Minter and his Llamasoft label but there are not many who were around in 1982 when the first Ataris hit these shores and the first British programs began to appear.

As with all new computers, those initial programs were not particularly sophisticated but the editor can remember going to one of the first Personal Computer World shows held at a jam-packed Barbican and seeing one of the very few new Atari programs (almost like today!) on a stand run by Llamasoft. The program had simple graphics, yet was fast and furious in play and with lots of great sounds. All it involved was deflecting a ball onto a target using rotating deflectors. It didn't even use joystick, yet it was an exciting new development, a new British program for the Atari.

Now you can relive that moment of history by typing the very program - TURBOFLEX - in yourself. Once it's up and running, you will need very little in the way of instruction. Select one of five difficulty levels from the intro screen and control play with just two keys - N and M. The rest you'll figure out.

As you play, you'll spot several things that became Llamasoft hallmarks, the sound, the speed, the high score table. They might seem old hat now, but were innovations at the time. Okay, so the graphics are nothing special but after 10 years all the playability is still there. Try it!

TURBOFLEX

```
CS 1 REM ################################
PJ 2 REM #          TURBOFLEX           #
FU 3 REM #              by              #
ZA 4 REM #         Jeff Minter          #
SG 5 REM # ---------------------------- #
CE 6 REM # NEW ATARI USER - MARCH '92   #
CY 7 REM ################################
NN 8 REM
FI 10 ST=0:GOSUB 12000
MR 20 DIM U$(1),Y$(1),SC$(100),SC(10),IN$
   (10),A$(1)
WD 30 KEY=764:LINE=0:PCOL=0
NU 40 GOSUB 5000
CU 50 PPX=50
UV 90 GOSUB 10000:NL=2:SC=0
QT 100 SETCOLOR 2,0,0:POKE 752,1:POSITION
    0,0:? "┌──────────────────────────────────
   ───────┐"
DF 110 FOR X=1 TO 18:POSITION 0,X:? "|":P
   OSITION 39,X:? "|";:NEXT X
SZ 120 POSITION 0,19:? "└──────────────────
   ────────────────────┘";
KH 130 IF ST THEN GOSUB 900
KY 200 PX=20:PY=10:DX=1:DY=0
NW 210 U$=" "
TD 220 GOSUB 5200
GW 300 OX=PX:OY=PY
NV 301 CNT=CNT-1:IF CNT<1 THEN GOSUB 7000
SL 303 PPX=PPX+DF:IF PPX>198 THEN PPX=50
GP 304 POKE POS,PPX
NP 305 IF PPX<50 THEN PPX=198:POKE POS,PP
   X
SD 306 IF PY=LINE THEN 6000
GG 310 PX=PX+DX:PY=PY+DY:LOCATE PX,PY,A
DR 315 IF A<>32 THEN 500
IM 320 IF PEEK(KEY)<>255 THEN 800
QO 400 POSITION PX,PY:? "●"
PJ 410 POSITION OX,OY:? U$
OA 420 U$=" "
RN 430 GOSUB 3000
MN 450 GOTO 300
GQ 500 Y$=CHR$(A):IF Y$<>"|" THEN 600
RG 510 U$=Y$:DX=-DX:POSITION OX,OY:? " "
VH 520 SFX=8:T=12:P=-1
MO 550 GOTO 300
JI 600 IF Y$<>"/" THEN 700
HB 610 SOUND 1,100,8,15
FY 630 IF DX<>0 THEN DY=-DX:DX=0:GOTO 650
NK 640 IF DY<>0 THEN DX=-DY:DY=0
AB 650 POSITION OX,OY:? U$:U$="\":GOTO 30
   0
XI 700 IF Y$<>"\" THEN 1000
HC 710 SOUND 1,100,8,15
HJ 730 IF DX<>0 THEN DY=DX:DX=0:GOTO 750
IW 740 IF DY<>0 THEN DX=DY:DY=0
YZ 750 POSITION OX,OY:? U$:U$="/":GOTO 30
   0
HA 800 P=PEEK(KEY):POKE KEY,255:IF P<>35
   AND P<>37 THEN 400
UN 810 IF P=37 THEN 850
EM 820 POSITION PX,PY:? "/"
FD 830 SFX=8:T=2:P=2
IZ 835 IF RR=1 THEN DF=-DF
KJ 840 LOCATE PX,PY,A:GOTO 315
FP 850 POSITION PX,PY:? "\"
JD 855 IF RR=1 THEN DF=-DF
FJ 860 SFX=8:T=2:P=2
KT 890 LOCATE PX,PY,A:GOTO 315
RK 900 SOUND 0,200,10,15:SOUND 1,202,10,1
   5:POKE 53768,1
TC 910 FOR X=1 TO 5
FM 920 FOR Y=0 TO 15:FOR Z=0 TO 15:SETCOL
   OR 2,Y,0:NEXT Z
MJ 930 NEXT Y
MO 935 NEXT X
PC 940 SETCOLOR 1,0,12:POSITION 7,11:? "
        ":SOUND 0,0,0,0:SOUND 1,0,0,0:R
   ETURN
BE 1000 IF Y$<>"-" THEN 1100
EZ 1010 U$=Y$:DY=-DY:POSITION OX,OY:? " "
OM 1020 SFX=8:T=12:P=-1
OD 1050 GOTO 300
VB 2000 SOUND 0,130+SFX*P,T,7+SFX:IF SFX=
    8 THEN COL=INT(RND(1)*16):SETCOLOR 2,C
    OL,SFX:SFX=SFX-1:RETURN
QZ 2010 SFX=SFX-1:SETCOLOR 2,COL,SFX:IF S
    FX<>0 THEN RETURN
BL 2020 SOUND 0,0,0,0:SETCOLOR 2,0,0:RETU
    RN
KA 3000 SOUND 1,0,0,0:IF SFX<>0 THEN GOTO
     2000
EL 3010 PCOL=PCOL+1:IF PCOL>15 THEN PCOL=
    0
KK 3015 POKE 704,10+PCOL*16
AH 3020 RETURN
WO 5000 REM SETUP
JO 5005 FOR X=1 TO 10:SC(X)=0:SC$((X-1)*1
    0+1,X*10)="PINK FLOYD":NEXT X
BD 5010 A=PEEK(106)-16
CI 5020 POKE 54279,A:PBAS=A*256:POKE 559,
    46:POKE 53277,3:POS=53248
IM 5030 FOR X=PBAS+512 TO PBAS+1024:POKE
    X,0:NEXT X
JZ 5040 DL=PEEK(560)+256*PEEK(561):TOS=DL
    +7:POKE TOS+19,4
RV 5050 RESTORE :READ A,A,A:ZZ=97
QD 5060 FOR X=1 TO 7:READ A:POKE PBAS+639
    +ZZ+X,A:NEXT X
PZ 5065 POKE PBAS+769+ZZ,12:FOR X=1 TO 5:
    READ A:POKE PBAS+894+ZZ+X,A:NEXT X
NJ 5070 POKE 705,3*16+8:POKE 706,8*16+8:P
    OKE 707,12*16+8
BE 5090 RETURN
AN 5100 LINE=INT(RND(1)*16)+1:POKE POS,0
MT 5105 PPX=INT(RND(1)*100)+60
ZV 5110 RESTORE :FOR X=0 TO 2:READ A:POKE
     PBAS+512+16+4*LINE+X,A:NEXT X
WG 5120 PCNT=39:POSITION 0,21:? "CCCCCCCC
    CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC";
KD 5130 POSITION 0,20:? "SCORE:";SC;"▶";:
    FOR X=0 TO NL:? "●";:NEXT X:? "▶";"TIM
    ER ";CHR$(27);CHR$(29)
MQ 5140 POSITION 0,22:? "Keys:       N:/ .
     M:\         to deflect ball";
XS 5150 POSITION 2,23:? "TurboFLEX  (c) 1
    982   Jeff Minter";
ZL 5180 DATA 20,8,20,1,254,62,14,15,7,3,6
    8,40,0,40,68
BG 5190 RETURN
OX 5200 FOR X=0 TO 2:POKE PBAS+512+16+4*L
    INE+X,0:NEXT X
PD 5210 GOTO 5100
AV 5900 RETURN
ES 6000 PP=PPX-46:IF ABS(PP-4*PX)>3 THEN
    310
NO 6005 SETCOLOR 2,0,0:SOUND 0,0,0,0:SFX=
    0:SETCOLOR 4,0,0
DK 6010 SC=SC+10*PCNT
NI 6020 SOUND 0,PPX,10,15:SOUND 1,PPX+2,1
    0,15:PCOL=PCOL+1:IF PCOL>15 THEN PCOL=
    0
GP 6030 POKE 704,14+PCOL*16:POKE POS,PPX
JJ 6035 PPX=PPX-3
PX 6040 IF PPX>30 THEN 6020
VE 6045 SOUND 0,0,0,0:SOUND 1,0,0,0
OV 6050 GOTO 220
DS 7000 CNT=5:POSITION PCNT,21:? " ";:PCN
    T=PCNT-1:SOUND 2,250-PCNT,10,1:SOUND 3
    ,248-PCNT,10,1
YP 7005 IF PCNT<8 THEN SETCOLOR 4,3,15-PC
    NT*2
ES 7010 IF PCNT>-1 THEN RETURN
MD 7015 POP
QR 7020 SETCOLOR 2,0,0:SOUND 0,0,0,0:SOUN
```

continued ☛

TURBOFLEX

```
D 1,0,0,0:SOUND 2,0,0,0:SOUND 3,0,0,0
HX 7025 SETCOLOR 4,0,0
BX 7030 C=0:FOR X=230 TO 190 STEP -0.5:SOUND 1,X,8,15:SOUND 0,X+2,8,15:C=C+1:IF C>15 THEN C=0
ZK 7040 POKE 705,24+C:POKE POS+1,X:NEXT X
GP 7050 POKE 705,31:SOUND 0,0,0,0:SOUND 1,0,0,0:C=15:POKE 706,15
UR 7055 FOR Z=1 TO 200:NEXT Z
RL 7060 SOUND 0,29,0,15:POKE POS+1,191:POKE 705,15:SOUND 0,29,0,0:POKE POS+1,190:POKE 705,31
CQ 7070 FOR X=188 TO 106+NL*4 STEP -1:C=C-1:IF C<0 THEN C=0
IR 7080 POKE 705,24+C:SOUND 0,29,0,C:POKE POS+2,X:NEXT X
GI 7090 POSITION 15+NL,20:? " ":POKE POS+2,0:POKE POS+3,106+NL*4:FOR C=15 TO 0 STEP -0.3
AB 7100 POKE 707,C:SOUND 0,5,0,C:NEXT C:POKE POS+1,0:POKE POS+3,0
HI 7110 NL=NL-1:IF NL<0 THEN GOTO 8000
IL 7120 FOR Y=1 TO 18:POSITION 1,Y:? " ";:SETCOLOR 2,Y/2,Y/2:SOUND 0,70-Y,12,15
DG 7130 SOUND 1,72-Y,15,15:NEXT Y:SETCOLOR 2,0,0
ER 7135 DK=DK+1:IF DK>5 THEN DK=5
EX 7137 GOSUB 10510
QL 7140 SOUND 0,0,0,0:SOUND 1,0,0,0:GOTO 220
XT 8000 FOR X=7 TO 13:POSITION 14,X:? "        ":NEXT X
MX 8005 POSITION 15,8:? "GAME OVER":SETCOLOR 2,0,0:SETCOLOR 4,0,0
ZS 8010 FOR X=40 TO 0 STEP -0.5:SOUND 0,135-X,10,8:SOUND 1,115-X,10,8:SOUND 2,90-X,10,8:NEXT X
BT 8020 SOUND 0,0,0,0:SOUND 1,0,0,0:SOUND 2,0,0,0
RC 8030 POSITION 15,10:? " FINITO!":FOR D=1 TO 300:NEXT D:POSITION 15,12:? "*THE END*"
FO 8040 FOR X=15 TO 0 STEP -0.1:SOUND 0,250-X,10,7:SOUND 1,252-X,10,7
BO 8050 SETCOLOR 1,0,X:NEXT X:FOR D=1 TO 200:NEXT D:POKE 53768,1
KY 9000 ? "K"
NA 9005 FOR X=PPX TO 0 STEP -1:POKE POS,X:NEXT X
SK 9010 FOR X=255 TO 0 STEP -2:POKE POS+1,X:NEXT X
TZ 9020 FOR X=255 TO 0 STEP -2:POKE POS+2,X:NEXT X
SB 9030 POKE 707,71:FOR X=255 TO 0 STEP -2:POKE POS+3,X:NEXT X
FE 9040 POSITION 12,0:? "TOP SCORES":POSITION 12,1:? "──────────";
LE 9050 PC=0:FOR X=1 TO 10:IF SC>SC(X) THEN PC=X:X=11:GOSUB 9500
LY 9060 NEXT X
MQ 9070 FOR X=1 TO 10:? :? "#";X;"▸";SC(X);"▸";SC$((X-1)*10+1,X*10)
CI 9080 NEXT X:FOR X=0 TO 10 STEP 0.1:SOUND 0,100+X,10,X:SOUND 1,102+X,10,X:SETCOLOR 1,0,X:NEXT X
FN 9100 POKE 53768,1:IF PC=0 THEN 9200
JH 9105 IN$="          ":POKE KEY,255
IK 9110 PY=PC*2:PX=15:OPEN #1,4,0,"K:"
RE 9120 POSITION PX,PY:? "*":GET #1,A:A$=CHR$(A)
UR 9130 IF (A$<"A" OR A$>"Z") AND A$<>" " AND A$<>CHR$(155) AND A$<>CHR$(126) THEN 9120
TS 9135 IF A$=CHR$(126) AND PX>15 THEN POSITION PX,PY:? " ";:IN$(PX-14)=" ":PX=PX-1:GOTO 9120
ZP 9136 IF A$=CHR$(126) THEN GOTO 9120
BU 9140 IF A$=CHR$(155) THEN 9180
TO 9150 IN$(PX-14)=A$:POSITION PX,PY:? A$:PX=PX+1:IF PX>24 THEN 9180
SM 9160 GOTO 9120
IP 9180 POSITION PX,PY:? " ";:SC$((PC-1)*10+1,PC*10)=IN$:CLOSE #1
LJ 9200 POKE TOS+19,2:POKE KEY,255:FOR D=1 TO 900:L=L+1:IF L>15 THEN L=0:H=H+1:IF H>15 THEN H=0
EZ 9205 SETCOLOR 1,0,L:SETCOLOR 2,H,0:IF PEEK(KEY)<>255 THEN POKE KEY,255:D=901
IT 9210 NEXT D:POKE TOS+19,4:SETCOLOR 2,0,0:SETCOLOR 1,0,10:SOUND 0,0,0,0:SOUND 1,0,0,0:GOTO 90
BV 9500 IF PC=10 THEN 9600
SO 9510 FOR Z=10 TO PC+1 STEP -1:SC(Z)=SC(Z-1):SC$((Z-1)*10+1,Z*10)=SC$((Z-2)*10+1,(Z-1)*10):NEXT Z
KM 9600 SC(PC)=SC:SC$((PC-1)*10+1,PC*10)="          "
AW 9610 RETURN
RV 10000 ? "K":SETCOLOR 2,0,0:POKE 752,1
MH 10005 POSITION 1,0:? " TurboFLEX  by Jeff Minter (c) 1982"
RK 10006 POSITION 1,1:? "─────────────────────────────────────"
OQ 10010 POSITION 5,3:? "1: STATIC TARGET"
BJ 10020 ? :? "   2: MOVING TARGET, SPEED SLOW"
PH 10030 ? :? "   3: SLOW TARGET, WITH REVERSING"
VC 10040 ? :? "   4: MEDIUM TARGET WITH REVERSE"
LZ 10050 ? :? "   5: FAST TARGET WITH REVERSE"
DD 10060 ? :? " PRESS SELECT TO CHOOSE, THEN RETURN."
FA 10070 ? :? :? "DIFFICULTY INCREASES AT END OF EACH    ↓PHASE OF PLAY, UP TO LEVEL 5."
QX 10080 PC=5:POKE 53279,8:CNT=0
WO 10090 POSITION 1,PC:? CHR$(27);CHR$(31);
PA 10095 FOR X=15 TO 0 STEP -1:SOUND 0,150,8,X:NEXT X
SP 10100 IF PEEK(764)=12 THEN POKE 764,255:GOTO 10500
RA 10110 IF PEEK(53279)<>5 THEN CNT=CNT+1:IF CNT<900 THEN 10100
XE 10115 IF CNT>499 THEN CNT=0:SC=0:? "K":POP :SETCOLOR 1,0,0:GOTO 9040
DU 10120 CNT=0:POKE 53279,8:POSITION 1,PC:? " ":PC=PC+2:IF PC>11 THEN PC=3
BA 10130 GOTO 10090
WE 10500 ? "K":DK=PC-3:DK=DK/2:IF DK=0 THEN DF=0:RR=0:RETURN
ZY 10510 RR=0:DF=1:IF DK=1 THEN RETURN
IU 10520 RR=1:IF DK=2 THEN RETURN
IZ 10530 DF=DK-1:RETURN
VV 11000 GOTO 11000
YY 12000 GRAPHICS 0:SETCOLOR 2,0,0:POSITION 0,3:? :POKE 752,1
CG 12010 ? "        ▀▀▀▀▀     ▄▀▀▀▀▀▀"
CH 12020 ? "         ▌▌▛▛▛▌▌ ▌▛▜"
OL 12030 ? "         ▌▌▛▛▛▌▌ ▌▛▜"
VJ 12040 ? "         ▀▀▀▀▀▀▀ ▀▀▀▀▀"
MI 12050 ? "         ▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄"
HT 12060 ? "         ▄▄▄▄▄▄▄▄▄▄▄▄▄"
PQ 12070 ? "         ▄▄▄▄▄▄"
SA 12080 ? "↓↓SETTING UP PMG DATA... PLEASE WAIT"
OP 12090 ? "↓↓(C)  1982  Jeff Minter   LLAMASOFT"
DD 13000 RETURN
```

CONTRIBUTIONS

FAME ...

thrills ...

and a few bob in your pocket!

Why not turn the love of your Atari into a few pounds to spend as you wish? Lots of people have done so by getting something published in NEW ATARI USER and they have also experienced the thrill of seeing their name in print. There really is something special about opening up a magazine and finding something that you have written all nicely laid out with your name at the top!

We pay for articles and programs on the following basis

£50 for the 'star' program listing each issue

£25 for all other listings published

£50 for the DISK BONUS program, if used on its own

£50 or more for multi-page articles

£25 for a single page article or review

plus other sundry payments for various items published

WHAT SHALL I WRITE ABOUT?

Programs for the XL/XE can be on almost anything, as a scan through past issues will reveal. We are short of good arcade games though and love stuff in machine code but Basic is fine if the game is good.

As for articles, the main aim is to write about something you really know about. Chances are that if you have discovered something that interests you enough to write about it, it will interest others as well.

All programs must be submitted on disk if possible. Cassettes will be accepted but we can't guarantee that they will load, so the risk is yours. Articles should be submitted as text files on disk wherever possible with printed copy if you have a printer.

We are not really fussy about presentation, as long as the programs or articles are well written, but the easier you make it for us, the better chance that your work will be published. We work on close deadlines each issue and there is nothing worse that to select a really good looking program only to find that we can't figure out how to use it because the author didn't write up the instructions!

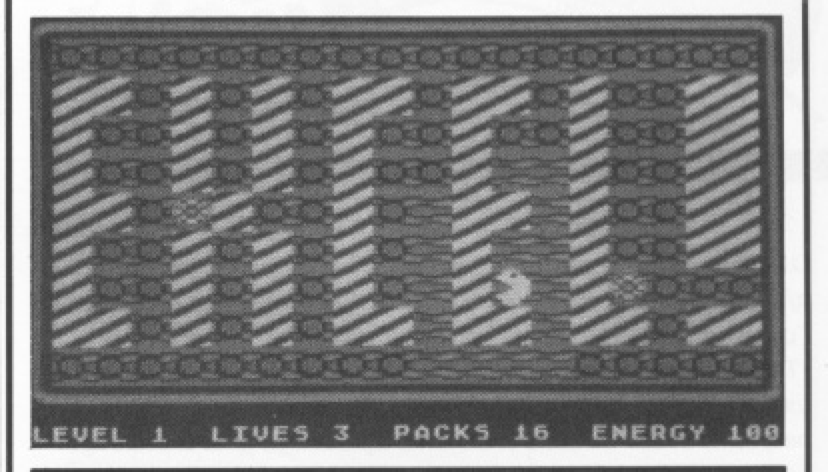
We can't guarantee that we will use every item submitted and we can't write back with reasons for not selecting certain articles or programs, but a lot do get published, as our regular contributors will know, so give it try.

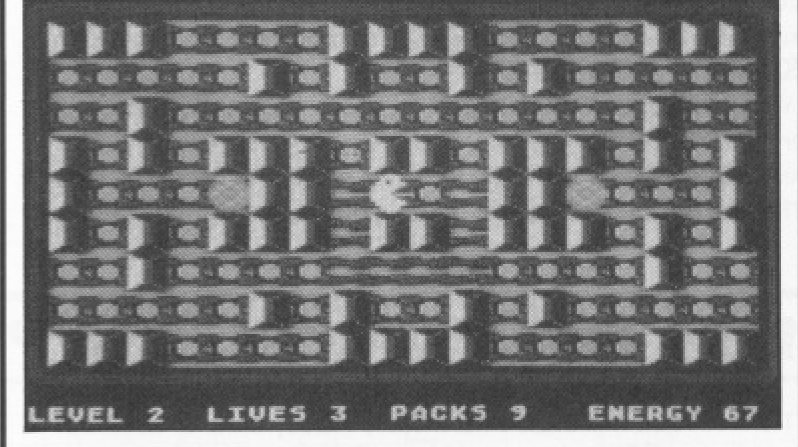
Send YOUR contributions to
THE EDITOR, PAGE 6,
P.O. BOX 54, STAFFORD, ST16 1DR

DISK BONUS

PACK MAN

by Robert Stuart



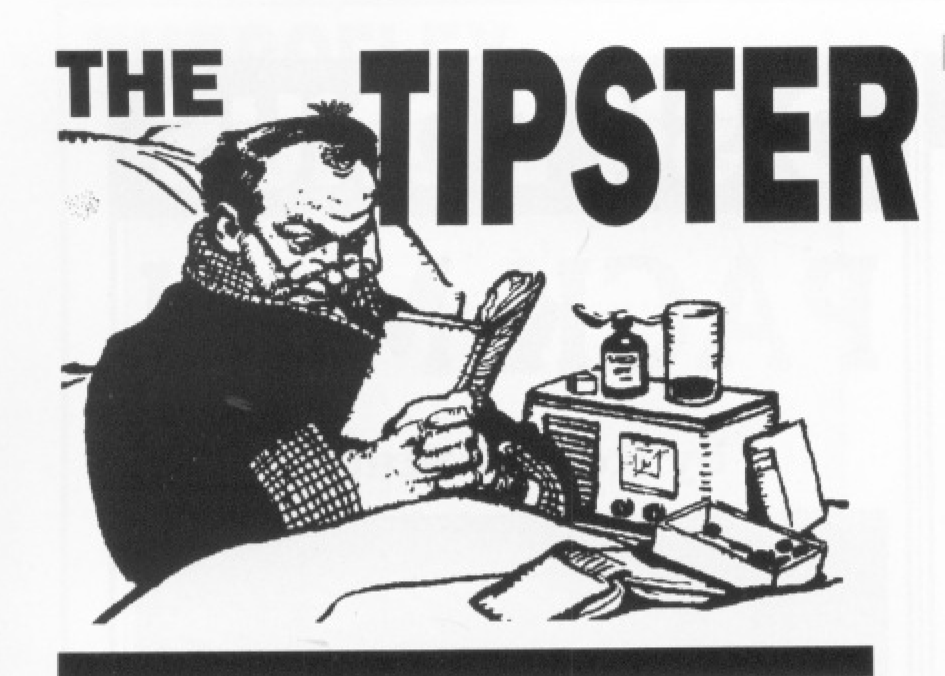


Check out the power of Turbo Basic in this version - with a difference - of the classic PacMan. Top class graphics combine with strategic play to give a very nice game.

Unlike the original where the objective is not to get caught, in this version it doesn't matter if the ghosts - here called tracker droids - get you as long as they don't get each other! The droids will follow your movement as you try to clear each level of the energy pods and you must steer them so that they do not collide. Two droids coming together makes a mighty bang and you will lose a life. Although the droids are not lethal as far as you are concerned, they will drain your energy each time you touch them so it's best to stay well clear if you can.

The first screen is fairly easy, just to get you started, but later on you'll be scratching your head trying to keep those drones apart!

PACK MAN is the BONUS on the disk for Issue 55 which contains all of the other programs from this issue ready to run. Disk subscribers will receive their copy with the magazine, but the disk is available separately for just £2.95. Write to PAGE 6, P.O. Box 54, Stafford, ST16 1TB or place an order by phone on 0785 213928 using your credit card.



O.K. what have we got for you this time? Good question! Well after half the weekend spent at the computer show at Wembley I've finally got time to sit down and write the column.

This issue sees me/you tackling **HEAD OVER HEELS** *with plenty of help via maps and hints sent in by a couple of people.* **STAR TREK** *(beam me up Scotty!) gets a thorough warping (ooh..err!) from Harvey Miller. Prize fighting is that much easier thanks to a set of tips that trounce the opposition in* **KING OF THE RING**.

Why am wasting time? Filling column inches, inane babbling, or building the tension, take your pick but what you've got to remember is that no-one gives better Atari tips than THE TIPSTER! (that's the ego trip out of the way.)

EVER ONWARD TO WHERE NO MAN DARES TO TREAD!

YEP, IT'S BOB AGAIN!

Will there be an end to the mountain of excellent tips and cheats for **MINER 2049er** as Andy Sharman of Banbury tells us of another feature of this intriguing game.

Start off in a safe place then as usual type out the code 213 782 6861 and then carry on playing as normal.

If by chance you fall off the cliff and you know are going to get killed when you touch the bottom quickly press SHIFT and press the number of the level you are on. You will have to start that level again but your number of lives hasn't been decremented. If you get fried by those nasty aliens then do the same thing but this time while you are frying.

Another nice tip from Andy is for **KICK OFF**. When you are awarded a penalty. Shoot in the middle of the goal and the keeper will just go to one of the corners!

WHAT YOU NEED, CAPTAIN, IS A DOSE OF DILIT

Trekkies rule!, well that's what me and Harvey Miller of Edgware know because through me and him we bring you the full unexpurgated hints 'n' tips for the bonus game **STAR TREK** from Issue 51's disk (sorry Harvey but you're not the Starfleet controller, come on controller contact The Bav). What follows are some hints that will make your five year missions to travel and explore strange new worlds all that much easier.

Ships computer

This should be used for tracking planets and Klingon vessels, but remember in order to use the tracking device to its full potential you should call up the long range scanners before the ship's computer.

Science computer

The science computer should be used to scan planets and stars to determine what they are, as well as Klingon vessels in order to determine how powerful they are.

Impulse engines

To move in the direction desired (as you have to orbit all stars planets) the following should be known:-

Heading	Effect
0	right horizontal
1	right diagonal and up
2	up
3	left diagonal and up
4	left horizontal
5	left diagonal and down
6	down
7	right diagonal and down

The speed is just the number of squares you move.

Understanding the long range scanner

K=Klingons
B=Starfleet base
S=Stars
P=Planets

The arrows show your present location and the number down the far right hand column are the sectors of the Quadrants shown, which should be read from right to left to indicate the position of other planets and stars e.g.

(Quadrant)	(Sector)
7	
K B S P	
V O I D	1
-Str Fleet HQ-	2,7
U N K N O W N	3

So therefore, Star Fleet HQ is located at Quadrant 7,7,2.

When using the long range sensor scan, a "bleep" indicates a Klingon vessel in your immediate Quadrant or in the other two shown.

Using Warp Drive

To use the warp drive simply type the destination quadrant numbers. In order to conserve energy Warp 1 is adequate at all times.

Phasers

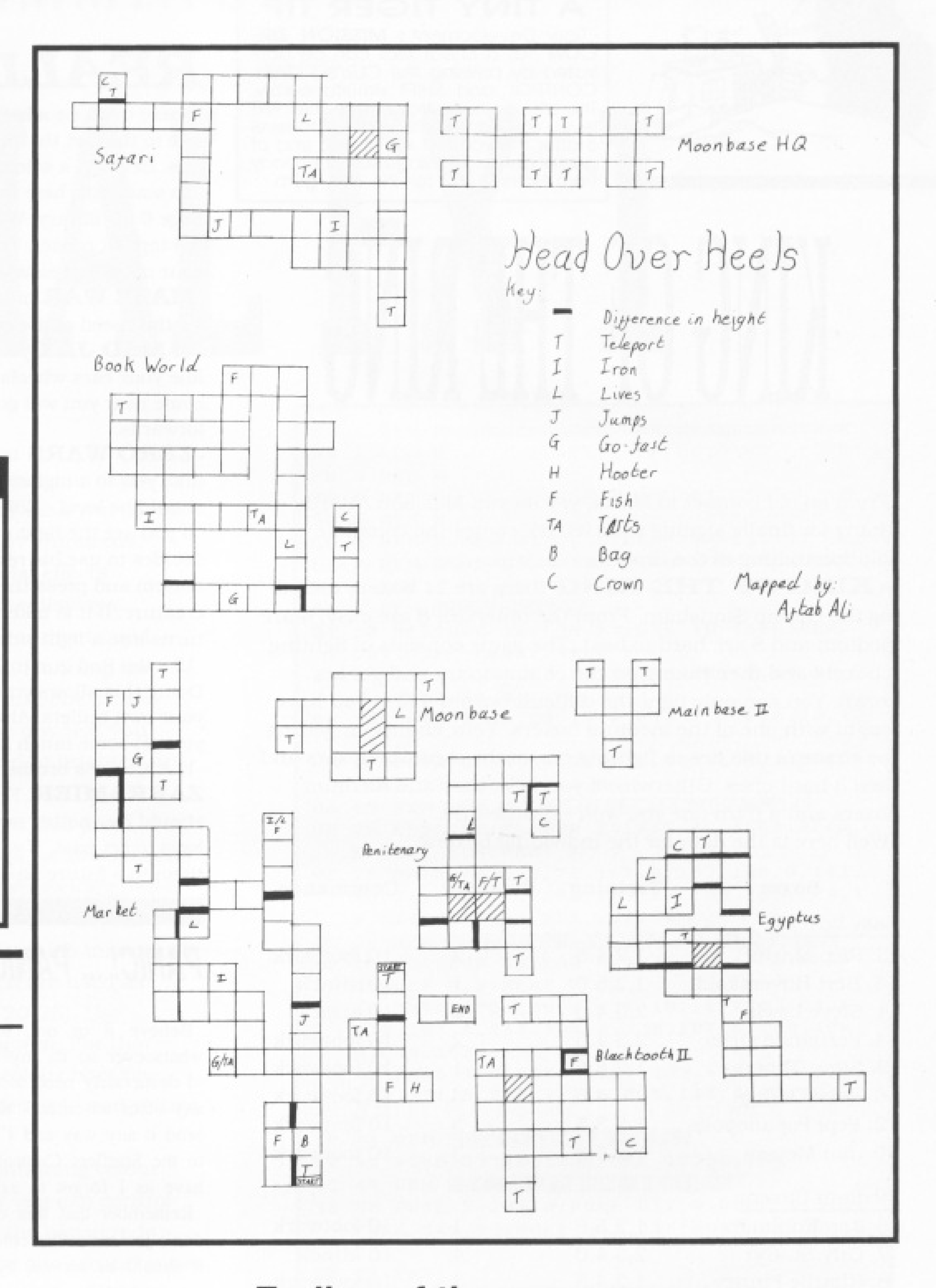
When encountering the Klingons the science computer will tell you how much energy each Klingon ship(s) has. If, for example, a Klingon ship has 300 energy then 600 should knock it out.

Photon Torpedoes

If you wish to use these then you will be asked the heading (0-7) which is the same as the impulse engines.

HEAD OVER HEELS

is mapped completely thanks to Aftab Ali of Slough who includes the locations of all of the items.



Quickies ...Quickies ... Quickies

A nice bit of bobsledding has been submitted to help you get the record times in WINTER OLYMPIAD 88 by Peter Panagiotopoulos of Athens, Greece (not a lot of snow there if I remember rightly!)

R=right turn
L=left turn
B=big turn
R-L-R-R-L-BL-R-L-R-L-R-L-L-R-R-BR-BL-R-L

You should press the stick at the given direction before and while you're turning in order to make a record run.

SPOOKY CASTLE is easy to conquer because all you have to do is press Control+J to advance through the levels.

If you stay on the screen next to the Jail in GUNFIGHTER then you can complete the game as all the villains come this way.

You've got to thank Zishan Ali of Slough for these two.

ITHIUM CRYSTALS!

Alerts

GREEN - This alert is for normal conditions.
YELLOW - This should be used in a space storm.
RED - This alert should be used before you warp to a quadrant containing Klingon vessels.

In each case, the alert helps to prevent as much damage as possible.

Making repairs

If the Enterprise has been damaged press 11 twice and whatever has been damaged will be repaired.

Saving a game

An undocumented feature within the game is how to make a save. Press 12 and you will get various options.

Crew members

The crew members appear in the following situations:-

SPOCK - When a game is saved well, Captain (not Cmdr. since this game was made during the feature films!) confirms this.

BONES - When was the last time the Doc had anything good to say?, it seems like never and he doesn't change this time round. Get hit too often and there's a message about the crammed conditions in the sick-bay.

CHEKOV - In his customary role as chief gunner, you can imagine his excitement as it's "torpedoes away", on those nasty Klingon wessels.

SULU - When orbiting a planet, he will confirm this as well as drive the ship to the desired destination.

SCOTTY - If you're running a wee bit low on energy then Monty will tell you so.

UHURA - Any incoming messages will be detected by her.

Ending of the game

There are 6 ways of ending of the game:-

Destruction by a Klingon vessel
Running out of energy
Being court marshalled by Starfleet for destroying a star or planet
Disappearing down a black hole
Disappearing down a C O star?
Returning to Starfleet

Some tips that are useful are that if and when Uhura gets a message telling you to return to Starfleet control, do not comply.

If a Photon torpedo disappears before striking the target then there's a black hole so get your butt out of there by Warping smartish.

When the Enterprise is low on energy (Dilithium decrystallization) you should head for the nearest Starbase. (low levels are those around 1.000 mark)

Do not head for the nearest Starbase at energy levels lower then 3,990 otherwise, as Harvey found out, your energy will be depleted rather than replenished.

The scores that get you to were you want to get to are:

You are promoted	425 pts
Decorated	350 pts
Reassigned	290 pts
Demoted	190 pts
Cashiered	-1 pts
Executed!	-32,000 pts



A TINY TIGER TIP

Tiger Development's **MISSION ZIRCON** has a cheat that can be activated by pressing the CLR/SET (TAB), CONTROL and SHIFT simultaneously. This allows you to travel onto the next level. You can do this right up to level 8 after this you are shown the end of game demo. Thanx go to John Dady from Hornchurch for this little gem.

KING OF THE RING

From an old contact in Malta, yes its you Malcolm Attard (thanx for finally signing your letter), comes the complete solution to King of the Ring.

In **KING OF THE RING** there are 21 boxers including the champ Stoneham. From the other 20, 8 are easy, 4 are medium and 8 are hard to beat. The game consists of fighting 4 boxers and then taking on the champ to try and get his crown. You can only fight the difficult boxers if first you have fought with one of the medium boxers. Your chance in getting the champ's title lies in fighting one of the medium boxers and then 3 hard ones. Otherwise if you fight easy and medium boxers and a hard one you won't get the title.

Well here is the data for the individual boxers:

Boxer	Training	Strategy	Commands
Easy boxers:			
3. Rico Martin	1,2,4,5	2	10 footwork
13. Bert Haverskold	1,2,5,6	1	10 attack
4. Steve Lewis	2,3,4,6	2	10 attack
14. Fernando Ortis	2,3,4,6	2	10 footwork
9. Steve Thomas	1,2,5,6	1	10 footwork
16. Jobe Odinga	2,3,4,6	3	10 footwork
12. Pepi Popadopolis	1,2,3,5	3	10 footwork
20. Jan Meyers	1,2,3,5	3	10 footwork
Medium Boxers:			
6. Jan Kohlman	1,2,5,6	1	10 footwork
7. Guy St. Cyr	2,3,4,6	4	10 attack
8. Charlie Finney	1,2,4,5	2	10 footwork
10. Juan Ruiz	1,2,3,5	3	10 footwork

Once you have fought one of these boxers you can access any of the following hard boxers.

Boxer	Training	Strategy	Commands
Hard boxers:			
1. Jose Felicians	1,2,3,5	3	10 attack
15. Stan Wheeler	2,3,4,6	4	10 attack
2. Seamus O'Mally	1,2,5,6	1	10 attack
17. Dave Brown	2,3,4,6	4	10 attack
5. Luciano Amato	1,2,3,5	3	10 footwork
18. John Craddock	1,2,5,6	1	10 footwork
11. Clem Scott	1,2,4,5	2	10 footwork
19. Kurt Vogel	1,2,4,5	2	10 footwork
Finally the champ:			
21. Vic "The Apocalypse Man" Stoneham	2,3,5,6	2	10 footwork
or	1,2,4,6	1	10 attack
or	1,2,3,6	1	10 attack

If during the inter round commands you decide that 10 footwork isn't working then change it to 10 attack and vice versa. If you fight some of the hardest boxers (18,19) then you won't be able to fight the easiest boxers.

REALLY COOKIN'!

There must be a hell of a lot worn out disks out there in Exeter due to the fact that K.J. Cooke has sent a mammoth list of quick tips. Below is a selection of the best ones.

To start with here is a tip for **TRON** which is on Disk 148 of the Page 6 PD library. When you start the game, push your joystick to the top left corner. This stops the light cycle so that you can watch your opponent slowly crash.

MAZE WAR on the same disk as TRON lets you press 1 to 9 for the speed of the zombies.

For **MAD JAX** you have to start the game as normal and then line your cars wheels up as close as possible. All the cars that come near you will go straight through if you only go back and forwards.

ZERO WARS is made easy by entering "ZERO" as the code to take you to a higher plain (lets not get transcendental now that should be level - Ed)

If you are the light side in **ARCHON** and your opponent decides to use his revive spell, tell him to keep his box at the bottom and press the button. This will summon some sort of creature. If it is taken onto the board and fire is pressed, it then turns into a light side knight. This allows you one extra player.

Use the Rail gun in **ZYBEX** to defeat the end of level guardian. Doing this allows you to differentiate between the guardians and your own bullets. Also if you start off the game as two players then you get some much needed fire power.

K.J. Cooke's brother Sean sends a very nice map for **ORB OF ZARRAMIER**. From what I can make of the map Sean there should be another set of rooms after the point where you need 9 keys to get past. If you find out what they are then I will include them in a future issue.

PANIC! ... PANIC! ... PANIC! ... PANIC! ... PANIC! ...

Believe it or not, this issue we have absolutely no calls for help whatsoever so its my turn to indulge myself in what I like.

I desperately need solutions (or hints 'n' tips) to Level 9 adventures and any other adventures that any reader may have. Even if it isn't complete send it any way and I'll see what I can do about it. This is another plea to the Starfleet Controller can I please have all those solutions that you have as I forgot to ask you about them at the show.

Remember that this column is as much your column as it is mine so don't just read this column, help write and serve the Atari community as it should be served, by the best tips money can't buy. (also boost your ego and self esteem into the bargain!)

Not much else to add to this issue but if any of you went to the 5th International 16 bit Computer Show at Wembley on the Sunday did you spot me as I was there advertising the mag in a subtle way (nah wot I mean?)

STOP PRESS! ... STOP PRESS! ... STOP PRESS!

The ST Book should be out by now *(I've heard promises like that before -Ed)* and it'll cost approx. £1299. Its a pretty natty bit of kit and will be incredible if Atari pull their finger out and market it as it should be, a portable, enhanced and fully featured ST for those on the go. Not as another ST to add to the range as if its something normal, believe me it ain't! (I spent an hour using it at the last show)

Any game hints 'n' tips to the address below plus Adventure solutions (I've run out of them!)

THE TIPSTER
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1DR

TTFN!

SPECIAL FX 1

Brighten up your programs with Robert Stuart's easy to use special effects routines

How many times have you loaded a game or demo that contains fancy effects that you wish you could use in your own programs? Dozens? Hundreds? Well, now you can use some pretty nifty special effects routines to smarten up those old monochrome displays.

This program uses a Display List Interrupt routine to add colourful bars to a normal Graphics 0 screen. Running the program will create two bars; one at the top and one at the bottom of the display, which will nicely frame any text you wish to display - a very similar routine is used to brighten up the text screens in the Excel monthly disks.

Once run, the program will stop at line 55. At this point, the vectors in line 50 are being used, with the VBI routine currently turned off. To see the Vertical Blank routine working (lines 30-40) simply type GOTO 60 and press RETURN. This will reset the Interrupt vectors to enable the VBI, which increments the memory locations from 1636-1649, which are used as temporary colour registers by the DLI (lines 20-25). Use whichever set of vectors you like in your program. For the colour bars use line 50 and for the rotating colour bars use line 60. Press RESET to switch off all the interrupts and return to the normal Mode 0 screen.

You will notice that there are three lines containing colour data (15-17); these are just examples of how you can control the colours in the bars. The first set shades the bar in reds from dark at the edges to bright in the centre, the second set is the opposite; bright at the edges and darker in the middle, shaded grey. Line 17 can be used for a rainbow coloured bar, but as the colour shades are not in sequence, this one does not work well with the vectors at line 60. Just change the RESTORE value in line 10 to point to which set of colours you want to use. Of course, you can input any COLOR values you like; but remember to end the sequence with a zero, to keep the normal background screen black! If you are using a different background colour, then put that value at the end of the sequence.

Line 45 alters the Display List to run the DLI at the top and bottom of the screen, but you can have as many colour bars on screen as you want. Suppose you require the screen to be split into three sections, with three rows at the top and the bottom, and a bigger area in the middle. Just add two more POKEs to line 45: POKE 39975,130 and POKE 39991,130. Neat, isn't it? The only snag is that the 6502 processor starts slowing down when you have a lot of DLI lines on the screen, but this will not significantly affect your Basic programs. More special effects coming soon!

```
CS 1 REM ##################################################
DN 2 REM #        SPECIAL EFFECTS #1          #
FU 3 REM #               by                   #
ZU 4 REM #          Robert Stuart             #
SG 5 REM # ---------------------------------- #
CE 6 REM # NEW ATARI USER - MARCH '92        #
CY 7 REM ##################################################
NN 8 REM
AD 9 REM COLOURS DATA
BI 10 RESTORE 15:FOR F=1636 TO 1650:READ
   DAT:POKE F,DAT:NEXT F
JN 15 DATA 0,50,52,54,56,58,60,62,60,58,5
   6,54,52,50,0
RO 16 DATA 0,14,12,10,8,6,4,2,4,6,8,10,12
   ,14,0
KW 17 DATA 0,54,56,28,236,182,198,116,198
   ,182,236,28,56,54,0
AA 19 REM DISPLAY LIST INTERRUPT CODE
VH 20 RESTORE 25:FOR F=1536 TO 1561:READ
   X:POKE F,X:NEXT F
VI 25 DATA 72,138,72,162,0,189,100,6,141,
   10,212,141,24,208,141,26,208,232,224,1
   5,208,239,104,170,104,64
ZE 29 REM VERTICAL BLANK INTERRUPT CODE
AY 30 RESTORE 35:FOR F=1736 TO 1780:READ
   X:POKE F,X:NEXT F
QJ 35 DATA 238,100,6,238,101,6,238,102,6,
   238,103,6,238,104,6,238,105,6,238,106,
   6,238,107,6
TF 40 DATA 238,108,6,238,109,6,238,110,6,
   238,111,6,238,112,6,238,113,6,76,95,22
   8
IP 44 REM ALTER DISPLAY LIST
ET 45 POKE 39968,130:POKE 39996,130
CC 49 REM SET INTERRUPT VECTORS
SB 50 POKE 54286,0:POKE 512,0:POKE 513,6:
   POKE 546,95:POKE 547,228:POKE 54286,19
   2
ZD 55 END
UG 59 REM RESET INTERRUPT VECTORS
UM 60 POKE 54286,0:POKE 512,0:POKE 513,6:
   POKE 546,200:POKE 547,6:POKE 54286,192
```

GETTING TO GRIPS WITH DOS XE

by Steven Wilds

The arrival of DOS XE has certainly been great news for the XF551 owning community, however, it does lack documentation. In this article I'll try and explain some of DOS XE's features, I won't be explaining any functions that have remained basically the same as with DOS 2.5.

DIRECTORIES

Lets start with a look at how DOS XE uses files and directories.

With DOS XE you can organize groups of files into directories. These could contain text files, games or anything you want. Each DOS XE disk has a root directory which will contain everything on that disk but you can create other directories and organize your files inside them.

Each DOS XE directory can hold up to 1250 files as well as other directories which are known as subdirectories. These subdirectories can contain files and even more subdirectories. Picture in your mind the roots or branches of a tree and you'll soon get the hang of using directories on your disks.

Although there is a limit on the number of files per directory there is no real limitation on the number of directories per disk although you are limited by the size of pathnames which I will explain.

PATHNAMES/FILENAMES

Each time you refer to a file with DOS XE you must indicate which disk drive it is on, which directory it is in and, of course, its name. This is called the pathname as its shows the "path" DOS XE must follow in order to find your file. Here is an example:

D1>SOFTWARE>BASIC>GAME.BAS

The device name "D" is used for normal DOS XE disks whilst "A" is used for DOS 2.x disks (when you have loaded the DOS 2.x code via the "Allow DOS 2.X Access" option). You can also use other device names like "P:"(printer) or "E:" for the screen editor. The device number is one, i.e. using disk drive one. The greater than (">") symbol is known as the 'Delimiter' and is used to separate the parts of the pathname. SOFTWARE is a directory name and is used if the file you require is NOT in the root directory. You must include an extension if there is one. BASIC is a subdirectory name contained inside the directory SOFTWARE,and finally, GAME.BAS is the file you want. Again you must include the extension if the file has one.

Pathnames cannot exceed 80 characters so if you really need loads of subdirectories use short names.

SHORT CUTS

DOS XE gives you a much needed short cut to use when dealing with pathnames. You can define a working directory which will be remembered by DOS.

On boot up the working directory is always D1>,root directory. To define a new one use the "Working Directory" in the DOS menus. The working directory is always displayed at the top of the screen. The rules to be used with working directories are:

1) If no pathname is given, the working directory pathname will be used
2) A colon (:) can be used as shorthand for the working directory's pathname
3) The less than (<) is used to move back from a directory
4) "D>" is always treated as "D1>"
5) If a device name doesn't match the beginning of the working directory's pathname then no part of the working directory's pathname is used
6) If the device name and number are followed by the ">" symbol, or ":>", then no part of the working directory's pathname is used
7) If the first character is a ">" symbol then DOS XE will only use the device name and number from the working directory's pathname

Bear in mind these seven rules and you will soon find working directories a piece of cake.

COMMAND LINES

Whilst DOS XE is, without doubt, a powerful user friendly DOS, it can get a bit tiresome to use as most command options require additional information. To get round this and at the same time to give you more speed, DOS XE can accept "Command Line Entries".

With a command line you can enter various instructions at once and then sit back as DOS XE carries them out. Say, for example, that you are currently working from the File Access Menu and wish to view a text file on screen. Using the conventional method of input you would enter "V" and then press Return. Following the prompt you would enter the pathname of the file you want to "view" and then press Return again. With a command line you would just have to type: V D1>FILE and press Return. DOS XE then displays each prompt and fills in the responses to the questions with the parameters (answers) given in the command line.

A command can be the first letter of an option, or you can use

whole words to make things easier to understand. DOS XE only looks at the first letter of each word so the exact wording doesn't matter. You could use "VIEW" or just "V" in the above example.

DOS XE treats each space in a command as a press of the Return key. After it accepts the V, it sees the space and "presses" Return so that the option is executed.

Any commands that require a prompt to be answered by pressing START cannot be used this way. This is to safeguard your files from accidental death! Also, error messages will bring your command line operation to an abrupt end.

You can move between menus within a command line. This is done by first going back to the main menu by using a full stop in the command line (like pressing Escape in a menu prompt). Once back in the main menu you can then choose one of the submenus or exit to Basic, i.e. V D1>ESSAY . E . This example goes back to the main menu after viewing a file and then exits to Basic.

Multiple commands can be entered on a command line by separating them with semicolons (;). Selecting a menu is not treated as a new command although it is good practice to always use a semicolon anyway. The semicolon will answer any remaining prompts in the current command with Return and then move on to the next command. This enables you to quickly access commands with default parameters. F; will give a list of the working directory on screen.

A command line cannot be more than 80 characters (two lines) long. Lets take a look at the following command line in detail and see exactly what each section does:

.S S 01JA92;. F F;

The full stop ensures that we are starting off from the main menu. The first S then selects the System Function Menu whilst the second S selects the "Set Current Date" command, "01JA92" is the date we want to enter and the semicolon completes the operation and passes on to the next command which is another full stop. This once again takes us back to the main menu. The first F selects the File Access Menu and finally,"F;" selects the Files Listing command with default parameters.

Whilst this should not be treated as an ideal command line, it does at least give an example of how DOS XE operates with Command Line entry. All of this information will come in handy with Batch Files but before we move on here are a few things you might find useful.

- A space, or group of spaces, is treated as a RETURN
- A semicolon answers ALL the remaining prompts in a command with RETURN
- DOS XE allows you to print out everything that appears on screen.Type CONTROL and P to activate this command and type it again to turn it off
- The scroll of information on screen from a file that is being "viewed" can be paused by pressing CONTROL and 1. Press the two keys again to restart. The scroll can be aborted by pressing break

BATCH FILES

BATCH FILES are nothing more than command lines saved as text files. When you run a batch file from the "Run A Batch File" option in the System Function Menu, the command lines are executed. A batch file named AUTORUN.BAT will run automatically when DOS XE is booted up.

Commands may be separated by semicolons or they may be on individual lines separated by Returns. A batch file is limited to 511 bytes although it can run another file as long as its last command is .S R FILE.

The exclamation mark (!) can be used as a REM statement. Anything after it on the command line is ignored. This comes in handy as you will want to keep your batch files for a long time. Also, remember that you can use descriptive word commands instead of one letter entries.

You can view a batch file from the "View A File" option in the File Access Menu and they should be identified with the extender ".BAT".

The following batch file goes to the File Access Menu and views itself on screen (it's not a very modest batch file!):

```
.FILEMENU
VIEWFILE D1>MODEST.BAT
```

As you can see, it first goes to the main menu and then on to the File Access Menu where it selects the "View A File" option.

You can create a batch file with any word processor that produces ASCII text files - use the "SAVE ASCII' command with AtariWriter +. You can also create batch files directly from DOS XE by copying from the screen to disk. Use the following command line to create a modest batch file:

.F C E: D1>MODEST.BAT

This takes you to the File Access Menu from the main menu, selects the Copy Files option and selects the screen editor (E:) as the source and MODEST.BAT as the destination. An empty screen with cursor should appear and you can now type in your batch file using the Atari's on screen editing facilities. Press Return as you finish each line and it will be sent to disk. After entering the last line press Return and then press CONTROL and 3 to close the file. Your batch file is now ready for use! If you've used MSDOS then this should be vaguely familiar!

NOTE AND POINT

With DOS XE the NOTE and POINT commands refer to a position within a file instead of a physical position on the disk as in DOS 2.X. As they are relative to the beginning of the file, NOTE and POINT do not change when a file is copied to another disk. You can also now refer to a position at or beyond the end of a file. This gives you the chance to use POINT to append files, and to make files with holes in them. The space for the holes is not allocated on disk until the holes are filled so you can have logical files larger than the actual disk space.

DOS 2.X uses two numbers for NOTE and POINT, a two byte SECTOR number and a one byte BYTE number. DOS XE uses one three byte number for the position within a file which is passed in the same three byte space used by DOS 2.X. Most languages will interpret the three bytes as the two DOS 2.X numbers.

You may have to mess around a bit to get the correct values. Atari BASIC requires two numbers - sector and byte. The format for NOTE is now NOTE #C,HIGH,LOW. C is the channel number, HIGH is where DOS XE will place the two high bytes of the location and LOW is where it will place the low location byte.

EXTENSIVE XIO XOMMANDS

The XIO command uses the format: XIO command, #channel, aux1, aux2, information. Aux1 and Aux2 contain auxiliary information. Aux1 is usually 0 except for OPEN and FORMAT functions and Aux2 is ALWAYS 0 with DOS XE. In the following explanations I'll be using the following abbreviations:

Bookscene

With books for the 8-bit now in short supply, Page 6 gives you the chance to buy some great British books at incredible prices. Here I'll take a look at two of the books on offer from the Page 6 Accessory Shop.

by Steven Wilds

ATARI ADVENTURES

Sunshine books are more well known for their Dragon related books and Popular Computer Weekly than for supporting the Atari. They did, however, bring out two first class books for our machines.

Atari Adventures, written by Tony Bridge, is a must for any budding Atari adventure writer and player. It starts off with a look at the origins of computer adventures and ends with a complete game listing titled 'Eye of the Star Warrior'.

The book is split into two parts. The first examines some of the best adventures available for the Atari and gives details on the monsters, objects and situations you could include in your own adventures. Finally, Tony weighs up the pros and cons of both graphic and text adventures. Part 2 is devoted to the 'Eye of the Star Warrior' listing and goes through the program structure showing you how to use the routines in your own games.

Atari Adventures is a brilliant, well put together book. It's full of Tony's amazing humour and the number one Atari magazine Page 6 (what else?!) gets a mention. When first released this book would have cost you £5.95 and was still a bargain. Now, at the price of £1.50 you've got to be mad to ignore it. Start filling in those order forms NOW!. I'm off to try and find Tony in one of his dark underground caverns ...

THE 130XE HANDBOOK

This Century Communications publication was written by Peter Lupton and Frazer Robinson, authors of the best selling 'XL HANDBOOK'.

Although the title suggests an exclusive use for 130XE owners, the book also covers the earlier 8-bit models. Indeed much information was passed on directly from the XL Handbook.

Inside you will find information on subjects ranging from the installation of your computer to Player-Missile graphics! A selection of top rate programs are included for you to type in as you progress through the book. An entire chapter is devoted to sound and music on the XL/XE and advanced information is also included. FOUR(!) chapters guide you through the Atari's graphics capabilities - from the SETCOLOR command to Display List programming and more! The appendices give full information on BASIC commands, Error codes, Graphics modes, Character codes and a lot more. If you want the definite solution to programming with the XL/XE then don't look any further, this is the book for you!

Available now for just £3.95 - half the original price.

Note: THE 130XE HANDBOOK will, almost certainly, be sold out by the time you read this, ring round the computer shops or try and pick up a secondhand copy

DOS XE continued

C=Channel & P=Pathname.

Here is an example: XIO 36,#1,0,0,"D>ATARI.BAS"

RENAMING - The format of the RENAME function is:

XIO 32,#C,0,0,P,new filename

You do not need to include the path for the new name, e.g.

XIO 32,#2,0,0,"D>PATH>FILE.EXT,NEWFILE.EXT".

FORMATTING - DOS XE uses three XIO commands for formatting disks. The first one is command number 252 and the format is:

XIO 252,#C,0,0,drive type

The drive types are the same as those used in the INITIALIZE DISK option on the DOS XE menus. In a standard configuration the choices could be: AT810, AT1050, XF551, 130RAM and SSDD.

Command number 253 varies slightly, the format being:

XIO 253,#C,drive type,0,drive number

e.g. XIO 253,#2,3,0,"D2:". In this example we are formatting an XF551 drive which the computer recognises as drive 2. If the drive type was 0 then a single density format would be done, otherwise the number corresponds to the following configurations:

1 AT810 - 2 AT1050 - 3 XF551 - 4 130 RAM - 5 SSDD

Finally command 254 formats the disk in the current drive configuration. This is what the disk drive thinks it is and NOT what DOS XE thinks it is!

Format: XIO 254,#C,0,0,drive number

OTHER COMMANDS

Here are the other DOS related XIO commands available:

COMMAND	FUNCTION	FORMAT
13	STATUS	XIO 13,#C,0,0,P
33	ERASE FILE	XIO 33,#C,0,0,P
35	PROTECT	XIO 35,#C,0,0,P
36	UNPROTECT	XIO 36,#C,0,0,P
37	NOTE	XIO 37,#C,0,0,P
38	POINT	XIO 38,#C,0,0,P
42	NEW DIRECTORY	XIO 42,#C,0,0,P
43	DELETE DIRECTORY	XIO 43,#C,0,0,P
44	WORKING DIRECTORY	XIO 42,#C,0,0,P

Try and incorporate the new XIO commands in one of your own programs or try and modify Paul Hollins' "Bulk Disk Formatter" (issue 52) so you can choose between all the different density formats.

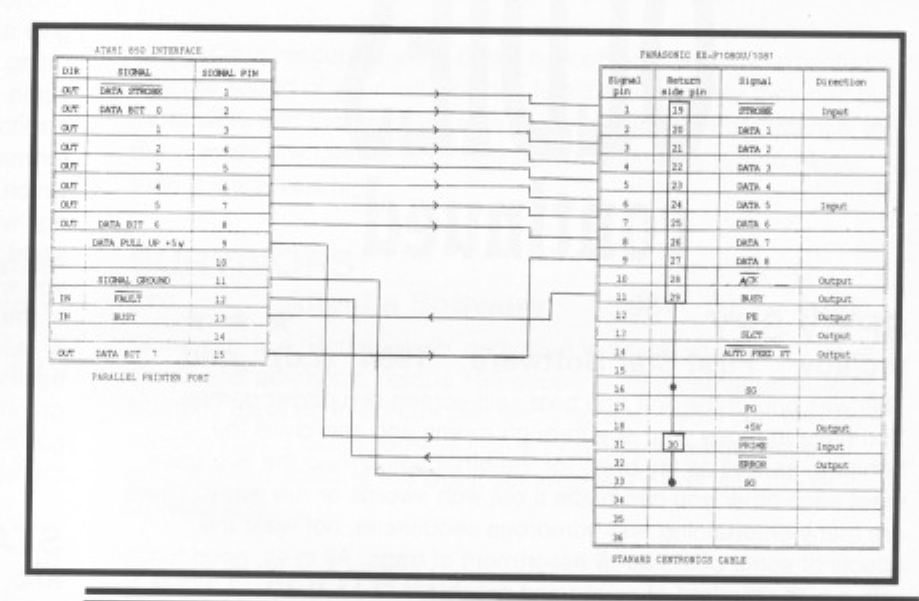
This article does not pretend to be a complete guide to DOS XE but I do hope that it helps you to get a little more use out of a really good DOS. The article is dedicated to my good friend Charles Smith and to people like John Stecyk who believe in the XF551 and had the courage to go out and buy one.

PROJECT

850 TO CENTRONICS

MAKE YOUR OWN CABLE

There has never been a standard cable available to connect the 580 interface to a Centronics printer but making your own is easy. Dave Bedford shows you how.



The following instructions will enable you to make a cable to connect from the parallel printer port on the Atari 850 interface to a Centronics standard type printer. This cable was made up to connect my Panasonic KXP 1080/1081 printer but will work with any standard Centronics printer.

You will need to purchase a standard Centronics printer cable for any computer and cut off the 24 pin plug. This will be replaced by a 15-way plug and cover available from Maplin Electronics reference BK58 for the plug and BK60 for the cover. Prices are 58p and £1.28 respectively. Now using a circuit tester, if you have one, or by identifying the wires by colour, solder the connections up pin by pin as in the diagram.

850 interface Signal Pin	Centronics Signal Pin
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	31
10 not used	
11	33
12	32
13	11
14 not used	
15	9

All unused cables are cut back. Check carefully by sight for any short circuits between the pins and also use a circuit tester if you have one. Place the plug in the cover, connect up both ends and you should find that your printer will fire into life!

THE A-Z OF GOLDEN (AND NOT SO GOLDEN) OLDIES continued

SPY V SPY ★ ★ ★
arc/adv   First Star Software   1984 (t,d) mid

This was one of the first and best split-screen two player games. You have to move your spy through rooms and search all the furniture, as well as lay traps for the other spy. When the two spies meet each other you can battle it out with swords or run away. There are many entertaining and humorous sequences, not least the effects of some of the large assortment of traps. All in all, good fun, with a high standard of sound and graphics.

SPY V SPY 2: THE ISLAND CAPER ★ ★ ★ ☆
arc   Databyte   1986 (t,d) mid

This is essentially more of the same, but with even better graphics and different traps than its predecessor. This time the spies are on a desert island (whose overall size and shape you can choose). Hazards include quicksand, coconut bombs, pits and rope traps. There is even more of a cartoon feel to this than 'Spy V Spy'!

THE KEY

Star Ratings:-

★	poor
★ ☆	poor/mediocre
★ ★	mediocre
★ ★ ☆	mediocre/good
★ ★ ★	good
★ ★ ★ ☆	good/excellent
★ ★ ★ ★	excellent

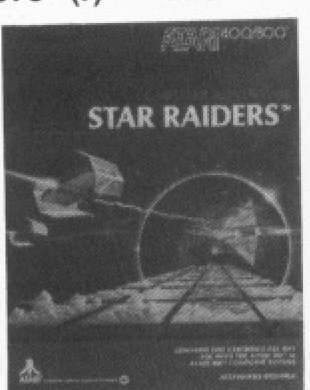
arc	arcade game	(t)	game is available on tape
plat	platform game	(d)	game is available on disk
sim	simulation	(r)	game is available on ROM cartridge
strat	strategy game		
adv	text adventure	bud	budget priced game (£1.99-£2.99)
gr adv	text adventure with pictures	mid	mid-priced game (£3.00-£8.99)
frp	fantasy role playing game	full	full priced game (£9.00+)
arc/adv	arcade game with puzzle solving/mapping etc.	imp	game is (or was) only available on import from America
		scarce	no price range available, because game is very difficult to get hold of

The price and format (tape, disk etc.) ranges quoted are intended as guidelines only. Games which were originally available on tape and disk can now be found on cartridge and vice-versa. This can also alter the price of the game in question.

SPY'S DEMISE ★ ★
plat   Electric Dreams   1985 (t,d) mid

Surely one of the most frustrating games ever written. You guide a little sprite across platforms which contain vertically moving obstacles. The trouble is, you can't stop running once you've started, and if you're set for a collision course you have to yank the joystick the opposite way. As with 'Spy Strikes Back' the continuous, varying music is excellent, but the game, although very simple and addictive, soon becomes too frustrating to play!

STAR RAIDERS ★ ★ ★ ★
arc   Atari   1979 (r) mid



Okay, I must be potty I know. Who would give a simple 3-D shoot 'em up a four star rating. Well, you have to take into account when 'Star Raiders' was written you see, and the impact it had on the home computer market. There is an old silent film which revolutionised Cinema. 'Star Raiders' was to computer games what this silent film was to Cinema. The game has you warping round the galaxy, disposing of the Zylon fleet, repairing and refuelling at starbases and also defending the starbases from Zylon attack. The game's graphics may not seem as stunning as they were in 1980, but the gameplay still remains excellent. 'Star Raiders' sold a lot of Atari's in the early 80's and it is a game no Atari owner should be without.

STAR RAIDERS 2 ★ ★ ★ ☆
arc   Atari   1986 (d,r) mid

Worthy follow-up to the all-time classic, outdoing its parent in the audio visual departments, but losing out slightly on playability. The main game screen is a 3-D view of space on which you dogfight Zylon flyfighters and motherships, and you can also call up an impressive looking galactic map chart. A classy shoot 'em up in all respects. My only complaint is that a game can last anything up to ninety minutes because those Zylons breed like rabbits.

STARQUAKE ★ ★ ★
arc/adv   Bubble Bus Software 1986 (t,d) full

Well designed arcade adventure with hundreds of nicely drawn locations (although only in two colours; still, that's the price you pay for high resolution Graphics 8 screens). Lots of blasting, climbing, collecting and puzzle solving to do, as you help B.L.O.B. (Biologically Operated Being) rebuild a planet's core.

STEALTH ★ ★ ★ ☆
arc   Broderbund   1985 (t,d) imp scarce

Why is it that a lot of great American Atari games were never released over here ? 'Stealth' is an attractive looking shoot 'em up with a three dimensional view of your ship and the landscape it skims over. You are placed slightly above and behind your ship, and from there you can make it weave left and right or accelerate and decelerate. A barrage of nasties zoom toward you. Watch out especially for missiles which come whooshing up and almost shoot out of your T.V. set. First rate graphics.

STEVE DAVIES SNOOKER ★ ★
sim   CDS Software   1985 (t,d) mid

This is a reasonable attempt at recreating snooker on computer. As well as the usual power meter, you also have the choice of screw, stun, topspin and left or right side. Games can be played between two players or one player and the computer (Steve Davies, appropriately). Don't expect too much.

STONE OF SISIPHUS ★★★
gr adv/frp Adv. International 1982 (d) imp/scarce

An unusual graphic adventure where you have to select your actions from a few choices presented onscreen. Therefore, the amount of typing required is down to a minimum. Surprisingly, even with this limitation, 'Sisiphus' plays a lot better than many other standard graphic adventures. It can be especially recommended for role players because you have to create and outfit your character before entering the dungeon.

STORM ★★☆
arc/adv Mastertronic 1987 (t) bud

This is a lot like 'Gauntlet', but the screens do not scroll. You have an overhead view of your character moving through the monster infested dungeon, searching for food, keys, potions and magic etc. Sound effects are of a high standard and there is a rousing tune accompanying the intro screens. Graphics however are a little disappointing and unclear at times.

STRANDED ★★
gr adv English Software 1983 (t) scarce

One of the first cassette based adventures for the Atari to feature graphics. However, a price must be paid for not using data compression techniques, so the graphics are rather simple and the text is a bit on the short side. The game's plot uses the old-hat 'crash landed on a strange planet' and you may have trouble getting your commands accepted by the limited parser. One for adventure buffs only.

STRATOSPHERE ★★
arc Players 1987 (t) bud

One of a series of XL/XE releases from this software house (see also 'Bubble Trouble' and 'Excelsor'). This is probably the worst of the bunch. It's a weird shoot 'em up, boasting colourful graphics and loud sound effects, but gameplay is virtually non-existent.

SUBMARINE COMMANDER ★★☆
sim E.M.I./Creative Sparks 1982/1986 (c,t) mid/bud

A submarine simulation with the emphasis on action rather than technical detail. You scour the Mediterranean in search of convoys to destroy, and are rated for your performance at the end of the game (each game can last from thirty minutes to a few hours). Game screens include a map, instrument panel, sonar, radar and periscope view. Extremely playable and holding its age very well.

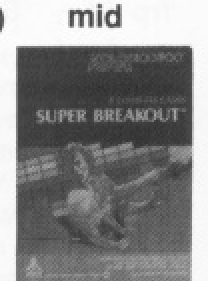
SUMMER GAMES ★★★
arc Epyx/U.S. Gold 1985 (d) mid

There are eight Olympic events in this package, the best ones being the pole vault, diving, gymnastics and clay pigeon shooting sequences. The four swimming and running events lack variety and can get boring. Overall though, 'Summer Games' has nice graphics and animation and genuinely exciting gameplay. Watch out for some bugs though if a few of you are playing.

SUNSTAR ★★☆
arc CRL Software 1986 (t,d) mid

Fast, noisy and unusual shoot 'em up with strategic elements. You have a 3-D 'out of the cockpit' view of a huge grid, along which you glide smoothly. There is a fair amount of blasting to be done as you search for green energy crystals.

SUPER BREAKOUT ★★
arc Atari 1979 (r) mid



Here you have the original, ancient, 'Breakout' arcade game (the one where you smash through a brick wall with a bat and ball). In addition you have a few refined 'Breakout' derivatives. Graphics and sound are on a basic level, but playability and addictiveness levels are high.

SUPER HUEY ★★
sim Cosmi/U.S. Gold 1986 (t,d) mid

A helicopter flight simulator with three different missions; mapping, combat and rescue. Control of the helicopter is well implemented and the sound of your rotor blades is excellent. If only they had put more work into the graphics side of things though. For instance, in the combat scenario, enemy helicopters and tanks are no bigger than a few pixels high.

SURVIVORS ★☆
arc Atlantis Software 1987 (t) bud

'Survivors' is a 'Boulderdash' derivative in which you control three droids and attempt to rescue 135 people from a damaged building. Strategy plays an important part because each droid can only do a specific task. This could have ben an interesting game, but poor graphics and some of the worst scrolling you'll ever see hinder it considerably.

TABLE FOOTBALL ★★
arc Rhino Marketing 1987 (t) bud

Bar Football on computer ? What will they think of next ? Fair graphics, hardly any sound, but it is no substitute for the real thing.

TAIL OF BETA LYRAE ★★★☆
arc Datasoft/Databyte 1984/1986(t,d) mid

The ultimate 'Scramble' clone with superb graphics and music. This humdinger of a horizontally scrolling shoot 'em up was written by Philip Price, and the music was by Gary Gilbertson. They later went on to write the 'Alternate Reality' games.

TANK COMMANDER ★★
arc Creative Sparks 1986 (t) bud

Okay strategic shoot 'em up with a four-way scrolling, bird's-eye view of a battlefield. You move your tank, complete with 360 degree rotating turret, over the battlefield and neutralise enemy tanks and buildings. Sound and graphics are reasonable and the game is quite challenging.

TAPPER ★★☆
arc U.S. Gold 1984 (t,d) mid

Enjoyable little game which has you playing the part of a bartender in a variety of pubs. Pressing the joystick button serves the beer by sliding it along the bar. Moving the joystick moves you to the next set of customers. Inability to keep up with the orders inevitably means the loss of one of your three lives. Graphics are okay, the backdrops ranging from country and western pubs to punk rock and space age bars.

compiled by
Kirk Ruebottom

TEMPLE OF ASPHAI TRILOGY ★ ★ ★
frp Epyx/U.S. Gold 1986 (t,d) full

All three Epyx 'Asphai' games in one set with a large background story/playing manual. First off, you create and equip your character, then you guide him through dungeons using both joystick and keyboard commands. Your view of the game is an overhead one, reminiscent of 'Gauntlet'. Indeed, these games could be described as slowed down versions of that game, with more thinking to be done and with more puzzles and traps to be negotiated. For the role players out there, this package represents good value.

TEN LITTLE INDIANS ★ ★
adv Mysterious Adventures 1983 (t) scarce

This is a text adventure in which you are charged with finding ten coloured statuettes in a manor house and its grounds. Like the rest of the Mysterious Adventures titles, locations are numerous due to the lack of detailed text descriptions. This however does not detract from the game's appeal.

TENNIS ★ ★ ★
arc Atari 1983 (r) mid

Graphics are reasonable, but playability is superb in this competent translation of tennis onto computer. Games can be in any one player/two player/computer player combination and you can also choose from doubles or singles play. The range of shots available is quite large, so the more deft you are with the joystick, the greater your chances of winning.

THEATRE EUROPE ★ ★
strat PSS Software 1985 (t,d) full

A wargame with arcade shoot 'em up sequences which has the Third World War as its scenario. Elements such as chemical warfare, nuclear exchanges and conventional warfare are all represented on the map, battle and city screens in a particularly nauseating and sensationalist manner. Not brilliantly programmed by any means, but with enough substance to please wargame buffs.

THRUST ★ ★ ☆
arc Firebird 1986 (t) bud

Basically, 'Thrust' is a combination of 'Lunar Lander' with a shoot 'em up element added. Guiding your inertia-ridden ship through narrow caverns, collecting fuel and shooting gun emplacements can be quite absorbing. Control is done entirely from the keyboard. Now why didn't they include a joystick option?

TOMAHAWK ★ ★ ★ ★
sim Digital Integration 1987 (t,d) full

No doubt about it, this THE helicopter simulation for your machine. The 3-D vector graphic 'world' and the enemy tanks, guns and helicopters are drawn and animated to the highest standards. Control and 'feel' of the helicopter is excellent. This is another of those rare games, appealing to simulation enthusiasts as well as arcade addicts.

TOUCHDOWN FOOTBALL ★ ☆
sim Electronic Arts 1986 (d) full

This is generally a poor attempt at putting American Football on computer. All of the strategic elements you would expect are present, and the controls are fairly well implemented, but the game's graphics and sound are atrocious. Once a tackle takes place all the players dive on top of one another, so that all you can see is a big blue and purple splodge on screen. If you're desperate to play American Football on your computer I still recommend having a look at this before you buy it.

TRACK AND FIELD ★ ★ ☆
arc Atari 1984 (r) mid

'Track and Field' contains six events, namely 100 metres, 110 metre hurdles, long jump, high jump, javelin and hammer throw. Graphics and animation are adequate, nothing more, but the game is fun to play with a few friends.

TRANSDISK ★ ★ ★ ★
ut Digicomm/Page 6 1984/91 (d) full

Digicomm continually updated this utility which enables you to transfer your cassette games to disk. It can handle all tapes, regardless of their length or built-in protection. Easily the most powerful of the many similar utilities available.

TRIVIAL PURSUIT ★ ★ ★
strat Domark 1986 (t,d) full

Enjoyable, well done conversion of the popular board game. A cute little green character called Mr T.P. is your quizmaster (he also provides some wisecracks after you answer a question). Game screens include a nice representation of the now familiar 'Trivial Pursuits' board, Mr T.P.'s living room (where the questions are asked), and various charts indicating the performance of each player.

221B BAKER STREET ★ ★ ☆
strat Datasoft 1987 (d) mid

Some board games do not translate well to computer and this is one of those I'm afraid. Each player moves his detective over an angled 3-D view of a board representing London City streets. When you enter a building a clue pertaining to the case appears on screen. You must string together these clues and solve the case. The game moves along far too slowly and you have to look the other way when a clue appears on-screen for the other player. Nice graphics and reasonable speech synthesis are here, but you'd still be better off buying the board game.

TURBO BASIC AND COMPILER ★ ★ ★ ★
ut Public Domain/Page 6 1987 (d) bud

There's been enough said about this tremendous package in these pages many times before. Suffice to say that there is no excuse for not owning it.

ULTIMA 2 ★ ★ ★
frp Sierra On-Line 1982 (d) imp scarce

ULTIMA 3 ★ ★ ★ ☆
frp Origin/U.S. Gold 1984 (d) full

ULTIMA 4 ★ ★ ★ ★
frp Origin/U.S. Gold 1987 (d) full

In its time, 'Ultima 2' was the biggest and most complex computer role playing game ever. In it you guide a character over a bird's eye view of a scrolling landscape dotted with trees, mountains, hills, oceans and towns. Combat with monsters plays an important part in building your character's expertise. Equally important is conversation with the many townspeople you meet. 'Ultima 2' also featured travel through space and time. All game commands are issued from the keyboard and take the form of pressing 'A' for Attack, 'T' for Transact', 'B' for Board Ship, 'Q' for Quit and Save Game etc. The Ultima series has basically the same format but improvements were added as the series progressed. Each became larger in turn and featured better combat screens, more characters to interact with, filled-in 3-D dungeon graphics etc. They are masterpieces of programming and probably the best designed and most involving computer role playing games to date.

UNIVERSAL HERO ★
arc/adv Mastertronic 1987 (t) bud

It's a shame, because this pretty arcade adventure was going to score very highly until I found out that there was a fatal bug in it. This has the effect of rendering the game useless and unplayable after you have been playing for five minutes or so. Don't buy it, 'nuff said?

UP 'N DOWN ★★
arc U.S. Gold 1985 (t,d) mid

A weird car racing game, viewed from above and with a vertically scrolling screen. You must collect all the flags dotted about and avoid the other traffic by jumping over them! You can also jump from track to track. As very little of the track is shown at one time you may find yourself hitting other cars before you've actually seen them. Graphics are fairly average, but a catchy little ditty jingles away merrily throughout the game.

UP, UP AND AWAY ★★
arc Starcade/Bug Byte 1983/1987 (t) bud

In this horizontal scroller you must watch out for kites, storms, windmills, aeroplanes and stone-throwing kids, all out to spoil your trip in a hot air balloon. Everything moves at a leisurely pace (probably too leisurely), although older games players may enjoy it.

U.S.A.A.F. ★★★☆
strat S.S.I. 1987 (d) full

Complex simulation of allied bombing raids over Germany during World War II. This is a game for strategists and wargamers, not for those who like fast action. Graphics are better than in most S.S.I. games, but their usual attention to detail has not suffered because of this.

VEGAS JACKPOT ★★☆
sim Mastertronic 1986 (t) bud

Okay fruit machine program with all the features you'd expect, such as gambles, holds and nudges. Graphics are lacking a little in bright colours but are well drawn. The whole game is operated using the console keys (Start, Select and Option). If you're a fruit machine addict then 'Vegas Jackpot' could help out with your rehabilitation.

VOODOO CASTLE ★★☆
(gr) adv Adv.International 1983 (t,d) mid

This first saw the light of day as a text adventure, later being incorporated into the 'S.A.G.A.' (Scott Adams Graphical Adventures) series. It has the distinction of being written by Scott Adams' wife. The story concerns events in a spooky castle and a means to lift a curse from the Count of Monte Cristo. Nice pictures, limited vocabulary, illogical puzzles.

WARGAME CONSTRUCTION SET ★★★☆
ut S.S.I. 1987 (d) full

The title of this piece of software speaks for itself. It allows you to design your own units and create battlefield maps. Even on-screen colours can be altered to your own taste. The end product could be anything from a medieval battle to a space age shootout. The package also includes several ready made wargames designed with this utility. The only drawback with 'WCS' is that you need it to play the wargames you design.

WARHAWK ★★★
arc Firebird 1986 (t) bud

A shoot 'em up that is over the top in just about every respect. It features an ace title screen and stunning music and sound effects. Put simply, 'Warhawk' is a vertically scrolling blast where everything comes at you. There is little variety but plenty of action.

WARRIORS OF RAS ★★
frp U.S. Gold 1986 (t,d) mid

This package contains two previously released role playing games, 'Dunzhin' and 'Kaiv'. Both games follow essentially the same format, giving you a birds eye view of your character and his immediate surroundings. Instructions such as lighting a torch, eating, equipping and fighting are all accomplished via key presses. Poor graphics and basic gameplay make this suitable for only the keenest role players.

WAVY NAVY ★★☆
arc Sirius Software 1983 (d) imp scarce

Fast moving, likeable shoot 'em up, in which your ship (of the ocean-going variety) has to contend with waves of diving planes, helicopters, missiles and submarines. Graphics are colourful and the sound effects are first class.

WAXWORKS ★★
adv Mysterious Adventures 1983 (t) scarce

Another colourful text adventure from the once prolific software house. In this one you are stranded in a spooky waxworks exhibition and you must find your way out. Pretty atmospheric and also challenging, even if the location descriptions are short and the game's vocabulary even shorter.

WHIRLINURDS ★★★
arc U.S. Gold/Americana 1985 (t,d) mid

Polished game with scrolling screens in which you must help the Nurd avoid all the traps and eat all the food. With fifty screens to complete it should keep you busy for some time. Novel controls, humour and good gameplay make 'Whirlinurds' well above average.

WINTER OLYMPICS ★
arc Tynesoft 1987 (t,d) mid

Beware of this forerunner to the excellent 'Winter Olympiad' released a couple of years later by the same company. Some of the five events included here (speed skating, ski jump, slalom, downhill and toboggan) would have been better if they were written in Basic! Of all the events, only the speed skating and ski jump could be termed average.

WIZARD OF WOR ★★★
arc Roklan Corp. 1981 (d,r) scarce

'Gauntlet' owes much of its gameplay to this ancient programme. Okay, there is no scrolling and you don't have to pick up food or potions, but the one and two player shooting elements are present. 'Wizard of Wor' also scores equally as high on playability as its more famous descendant.

WIZARD'S CROWN ★★★
frp strat S.S.I. 1985 (d) full

If you like the tactical and strategic elements of role playing games then look no further than 'Wizard's Crown'. The game's emphasis is not on role playing, but in detailed combat sequences and exploration of the game map. True, role playing elements are here (characters, treasures, dungeons), but consider that a single fight can take anything up to half an hour! An absorbing game, suitable ideally for the fantasy wargamer.

ZAXXON ★★☆
arc Datasoft 1983 (t,d) scarce

Adequate conversion of the famous, innovative arcade game. 'Zaxxon' has the claim of being the first scrolling isometric 3-D shoot 'em up. Of course, not all of the features of the arcade version are present in this conversion, but there is still enough to keep trigger happy fingers busy.

contact ... contact ... contact ... contact

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HAPPY: Manual or information wanted about Happy Enhancement Chip in 1050 disk drive. Contact Chris on 0475 21796

US DOUBLER: Wanted for 1050 drive or information on where to get one. Please ring on (0203) 222114 after 6pm

DISKS: 100 capacity disk bank plus 20 blank disks (5.25", new, no rubbish). Will exchange the following original cassettes (some with clue sheets) - Colossal Adventure, Dungeon Adventure, Emerald Isle, Return To Eden, Snowball, Red Moon and The Worm In Paradise. Bill Jackson, 68, Martin Street, Buckhaven, Leven, Fife KY8 1EP

DISK DRIVE: 810 or 1050 disk drive in good working order with peripheral lead and power supply. Will pay up to £50 plus postage or will collect locally (Maidstone, Kent). Please call Oli on 0622 861664 any time

EXCHANGE: I desperately need Zork II, Deadline, Enchanter and Spellbreaker. If you have any of these and would like to exchange one of them for Lurking Horror or Voodoo Castle (disks) or the Count/Pirate Adventure/Hacker on cassette (all three cassettes for one disk) please call Mark on 0530 560062 after 6pm

THE EIDOLON: Urgently needed to replace my own copy (disk) accidentally 'killed' recently. I also need Winter Olympiad '88 and Beach Head II (both on disk). Will pay or swap for other software. Contact Tony McGuinness, 95, Hillcrest Drive, Lucan, County Down, Ireland

MENU MAKER: Disk program Atari 8-bit menu maker (Rob C), public domain. Old program. Anybody help? Ring Ken 0272 384771 after 6pm

WANTED: A current copy of 91/92 season Poolswinner Gold for the ST. Please write to Charles Smith, 93 Preachers Lane, ST. Ebbe's, Oxford OX1 1RT

PENPALS/HELP

HI-SCORES: Come on all of you 8-bit gamers! I am compiling a hi-scores list of all of your favourite games so send in all of your hi-scores with a s.a.e. and I will send you a scores list with the top 5 scores and player's names for each games. Send all of those hi-scores to James Haworth, 85 Ashtree Road, Oadby, Leics. LE2 5TD. will you be the No. 1 gamer?

MAL EAST: Will Mall East of Gnosall, Perth, Western Australia, who wrote to me in October 1991, please write again as I have something to send him. Only this time please include a complete return address that the Australian post authorities will be able to understand! Len Lawson, 100 Barons Road, Bury St. Edmunds, Suffolk, IP33 2LY, England

HELP: New user (65XE, 1050, 1010, 30-40 disks) would like to hear from anyone interested in sharing their knowledge, swapping ideas, tips and games. Interested? Then please write to Ian Oxley, 6, Wilson Road, Stamshaw, Portsmouth, Hants. PO2 8LF

FAME: I'm still trying to get my hands on all available information on Turbo basic. If you have any information whatsoever on the subject then send it to me. The end result will be a disk which will be released onto the public domain so that everyone can benefit. All contributors will be listed on disk, so become famous. Write to me at R. Espino, 111 Paston Ridings, Peterborough, Cambs. PE4 7UX

KEITH TAYLOR (BOOTLE): Please give me your new address. Ron J. 0772 791470

HELP!!: Has some kind samaritan got any redundant utility which enables 8-bit W/P files to be transferred to my STE? Will offer in exchange XL/XE or ST software or pay modest amount. Write to Chas Smith, 93 Preachers Land, Oxford OX1 1RT

SURVIVAL GROUP: Interested in keeping the 8-bit Atari alive in Ireland? If so, please contact Tony McGuinness, 95, Hillcrest Drive, Lucan, County Down, Ireland or phone 01-6241754 between 7 and 10pm

SOLO FLIGHT: Bored pilot, tired of flying around aimlessly needs instructions and/or tips. Contact Tony McGuinness, 95, Hillcrest Drive, Lucan, County Down, Ireland

CONTACT is FREE of charge and may be used by any genuine Atari enthusiast for contacting other owners. Any notice may be included except those offering software only for sale or exchange or those offering items for sale commercially. The Editor reserves the right to omit or edit any notice received at his discresion. If space is tight, notices may be shortened and addresses may be omitted with only telephone numbers being published.
Send your CONTACT notice to CONTACT, PAGE 6, P.O. Box 54, Stafford, ST16 1DR. Please write your notice on a separate sheet of paper, not as part of a letter.

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...

ZORK I ★★★☆
adv Infocom 1981 (d) full

ZORK II ★★★☆
adv Infocom 1981 (d) full

ZORK III ★★★☆
adv Infocom 1983 (d) full

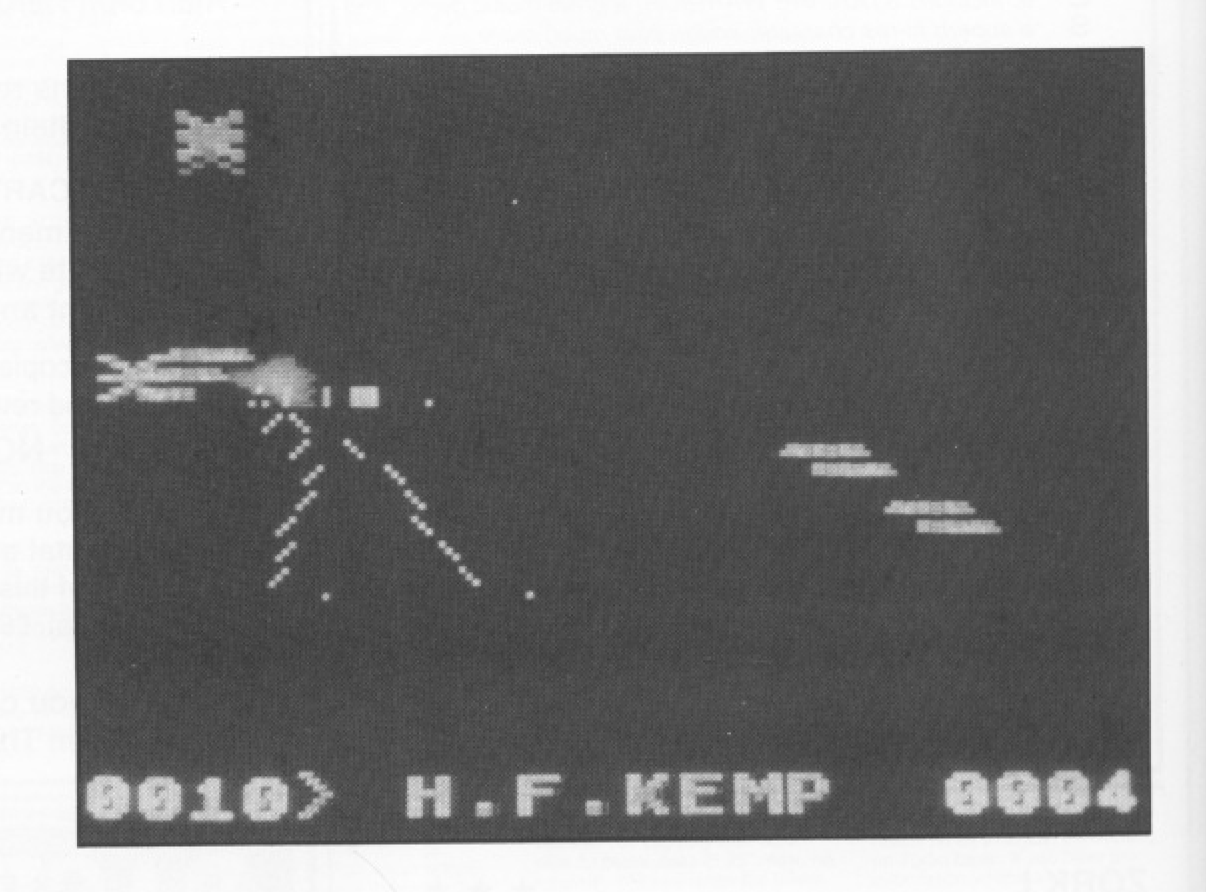
The 'Zork' games are classics of the text adventure genre. Their central themes are underground exploration (being adapted and enhanced versions of the famous 'Colossal Cave' adventure, the first computer adventure ever). They offer reams of descriptive text, big vocabularies and tons of humour. Any serious adventurer will have these in his or her collection. With the emphasis now on graphic adventures, it is pleasing to know that this trilogy carved its own special niche in the history of the computer game.

ZORRO ★★★
arc/adv Datasoft/U.S. Gold 1985 (t,d) mid

Arcade antics and puzzle solving is the essence of this graphically attractive game from Datasoft. Zorro can walk, climb, jump, pick up and drop items etc. He will also despatch enemies with a few quick thrusts of his blade. Working out exactly how to solve each screen and what to do with items you find is sometimes pretty absorbing.

... and so ends one of the biggest surveys of Atari software published in any magazine. There are some cracking programs included in this article - all you have to do now is track them down but, sadly, it won't be easy!

FIGHTER



by H.F. Kemp

What is the more important aspect of a game, graphics or playability? Most people would agree that it is the latter which is why games such as Breakout and the original Pong were such a success and are still played today.

FIGHTER is a good example of a game with minimal graphics but good playability. It is the author's first attempt at writing in assembly language and he has come up with a nice little blast 'em game. True, the alien craft are just big crosses and there is nothing but the blackness of space as background graphics but that doesn't detract from the game. It is simple and it is fun. Try it.

Disk users should type in the main listing only, save a copy as a Basic file and then run the program with a blank disk in drive 1. The Basic program will create a machine code file which can be loaded and run from DOS by using option L.

Cassette users should first type in second short listing and CSAVE it to a new blank tape. Remove this tape from your cassette deck but make sure that you don't rewind it. Now type in the main listing and save it on another tape. Insert your original tape and run the main program (still in memory) which will then create a machine code file immediately following the first listing. To run the game, rewind the tape and CLOAD and run the first program which will automatically load and run the main game.

```
EI 1 REM ******************************
PA 2 REM *          FIGHTER           *
RQ 3 REM *             by             *
HE 4 REM *     H.F. Kemp, Holland     *
EC 5 REM * -------------------------- *
OA 6 REM * NEW ATARI USER - MARCH '92 *
EO 7 REM ******************************
NN 8 REM
ES 10 POKE 106,128:GRAPHICS 0:DIM A$(16):
   LINE=100:TRAP 6000
AA 30 FOR BL=0 TO 2:GOSUB 7000
KF 60 ? LINE:RESTORE LINE:READ A$,X:TOT=0
   :FOR F=1 TO 15 STEP 2:H=0:GOSUB 90:B=A
   *16
MR 70 H=1:GOSUB 90:B=B+A:POKE AD,B:TOT=TO
   T+B+(AD-256*INT(AD/256)):AD=AD+1:NEXT
   F:IF TOT<>X THEN 6000
MB 80 LINE=LINE+10:IF AD>LS THEN NEXT BL:
   GOTO 5000
TS 85 GOTO 60
AO 90 A=ASC(A$(F+H)):A=A-48:A=A-(7*(A>9))
   :RETURN
SD 100 DATA 0030183E1830000C,246
UM 110 DATA 187C180C00221408,338
MC 120 DATA 3E08142200000000,280
BT 130 DATA 000000000000941A,394
AW 140 DATA 1A0C0C1A360A0000,424
KU 150 DATA 0000009E00684E66,790
AR 160 DATA 4E6B656D70000000,919
AP 170 DATA 0000000709090080,629
UT 180 DATA 00806E6E6F6F9FCF,1476
AI 190 DATA AF23C8070B001000,1048
IS 200 DATA 00007030CD00700D,1158
PJ 210 DATA 0D8D0D0D00000000,912
GC 220 DATA 4727904152900000,2077
ZY 230 DATA AD0ED4297F8D0ED4,962
SL 240 DATA A9528D3002A9908D,988
QX 250 DATA 3102A96C8D07D4A9,1013
IA 260 DATA 2E8D2F02A9038D1D,798
JA 270 DATA D0A901A2009D08D0,1197
EW 280 DATA E8E003D0F8A9D58D,1786
OM 290 DATA 0CD0A9F18D0002A9,1354
YH 300 DATA 838D0102A200A98D,1223
IE 310 DATA 9D5C90E8A90D9D5C,1596
BJ 320 DATA 90E89D5C90E8E060,1925
VX 330 DATA D0ECA200BD1E909D,1794
UT 340 DATA C002E8E009D0F5A9,2013
QR 350 DATA 038D0FD2A9018D6F,1587
UJ 360 DATA 02A9908DD182A9C2,2018
EY 370 DATA 8DD082A00220CC82,1931
HI 380 DATA A014A96C8DD182A9,2094
OF 390 DATA 008DD08220CC82A2,2059
ER 400 DATA 00A918E89D8A6FE8,2179
XX 410 DATA E8E066D0F6A9008D,2502
OB 420 DATA 0BD08D08D28D9191,2253
EG 430 DATA 8D4D908D01068D50,2039
PW 440 DATA 908D519020FF8220,2331
HP 450 DATA 0983A900AAA89D93,2387
IJ 460 DATA 91E8C8C003D005A0,2645
VX 470 DATA 00186901E066D0EE,2466
WF 480 DATA A9708D0106A90085,2359
CK 490 DATA CB8D0006A90685CC,2554
MV 500 DATA A200A000B1CB1869,2587
DM 510 DATA 28A00291CBA001B1,2708
ZV 520 DATA CB6900A00391CBE6,2933
HL 530 DATA CBE6CBE8E066D0E2,3576
RE 540 DATA A9148D8791A9008D,2932
UN 550 DATA 4D90A93C8D8191A9,1062
UJ 560 DATA 808D8491A900A200,969
FB 570 DATA 207A83A9148D8591,1049
RZ 580 DATA A9678D8291A9078D,1225
AO 590 DATA 8891A9C88D8691A9,1523
XX 600 DATA 0A8D8391A90B8D89,1233
TR 610 DATA 918D0FD4AD0FD429,1366
CA 620 DATA 40F0F9AD0ED40980,1565
RA 630 DATA 8D0ED4AD1FD04A90,1537
CD 640 DATA 06AD84024AB0F48D,1552
UA 650 DATA 1ED0AD0BD4C980D0,1839
TR 660 DATA F9A9098D2F83A96B,1754
GT 670 DATA 8D4283A9008D6983,1680
NW 680 DATA A9068D5283AD9191,1852
BF 690 DATA 25144D00D3A20020,1463
DH 700 DATA 2383A5142901D003,1592
SV 710 DATA 208384AD9291F003,2054
JJ 720 DATA 207384CE8791D00F,2104
KO 730 DATA A9058D8791AD0AD2,2168
SZ 740 DATA 8D88914A8D8991A2,2325
ZR 750 DATA 01A9098D2F83A968,2079
FI 760 DATA 8D4283201683A202,2059
MZ 770 DATA A9098D2F83A9688D,2347
ZJ 780 DATA 4283201683A51429,2108
YL 790 DATA 01AAAD819138FD82,2621
DE 800 DATA 91C905B00034CA783,2532
DO 810 DATA BD829138ED8191C9,2924
SV 820 DATA 07B00034CA783AD91,2634
HV 830 DATA 91D008AD8402D003,2699
MZ 840 DATA 204D82AD8A91F020,2851
HS 850 DATA 20B582AD8B918D07,2896
QY 860 DATA D0AD8A911009EE8B,3078
GT 870 DATA 91EE8B914C9082CE,1251
QA 880 DATA 8B91CE8B914C9082,1216
TI 890 DATA AD0BD085D52908F0,1183
KM 900 DATA 03206385A5D52907,913
MP 910 DATA 4AF00BC903D002A9,1192
OK 920 DATA 01A88820C785AD0C,1202
CS 930 DATA D0F00FAD9191D00A,1556
VZ 940 DATA A9018D9191A90820,1286
YI 950 DATA A182AD9191F00320,1569
LS 960 DATA 1F864C4F81AD8A91,1509
WY 970 DATA D03DA90F8D8D91A9,1717
OY 980 DATA 018D8A91AD849138,1663
SG 990 DATA E9088D8B91AD7E91,1906
GD 1000 DATA D00EAD8B91186918,1692
JZ 1010 DATA 8D8B91A9808D8A91,2070
UE 1020 DATA AE8191E8E8E88E8C,2414
HR 1030 DATA 91A9C01D806D9D80,2109
EK 1040 DATA 6DAD8B918D07D060,2134
XM 1050 DATA AD8B91C9199004C9,2212
YK 1060 DATA DE900320A1824C10,2028
MH 1070 DATA 82A9008D01D28D8A,2238
UX 1080 DATA 91AE8C91BD806D29,2443
DQ 1090 DATA 3F9D806D60AD8D91,2448
QX 1100 DATA 30114A09208D01D2,2032
PV 1110 DATA AD8D910A0A8D00D2,2394
XH 1120 DATA CE8D9160A900AA9D,2712
NO 1130 DATA 0006E8D0FAEED182,2965
YY 1140 DATA 88D0F160A202AD50,2854
YZ 1150 DATA 90484A4A4A4A20F6,2610
YB 1160 DATA 8268290F20F682CE,2788
AC 1170 DATA DF82CAD0E9600910,3065
SI 1180 DATA 8D2790EEF98260A9,3218
EJ 1190 DATA 518DDF82A9374C10,919
BN 1200 DATA 83A94F8DDF82A927,1173
IS 1210 DATA 8DF9824CDC82A90C,1283
EI 1220 DATA 8D69838D5283CABD,1342
HH 1230 DATA 8891E8482901D00D,1132
RL 1240 DATA DE8191BD8191C90A,1518
LW 1250 DATA B003FE8191684829,1336
QO 1260 DATA 02D00DFE8191BD81,1545
SW 1270 DATA 91C9699003DE8191,1634
OZ 1280 DATA 68482904D012DE84,1405
AX 1290 DATA 91A9069D7E91BD84,1737
JS 1300 DATA 91C92EB003FE8491,1834
TF 1310 DATA 682908D012FE8491,1706
NE 1320 DATA A9009D7E91BD8491,1923
SA 1330 DATA C9C19003DE8491BD,2153
PN 1340 DATA 7E918D9C83BD8491,2153
EL 1350 DATA 9D00D0BD8191187D,2029
IA 1360 DATA 3E908D9F83BD4290,2152
ZZ 1370 DATA 8DA083BD3B908DA3,2308
CD 1380 DATA 83A200BD00909D00,2027
```

continued ☛

FIGHTER

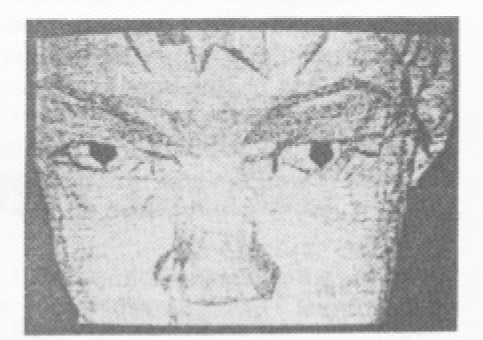
```
XK 1390 DATA 06E8E080D0F560BD,2636
DM 1400 DATA 859185CBBD829138,2506
GL 1410 DATA E909AA18690685CC,2320
FQ 1420 DATA 86CDBD9391AABD3A,2737
VK 1430 DATA 91D024AD8491C5CB,2803
HU 1440 DATA B004A003D002A001,2342
RQ 1450 DATA A5CBC001D0031869,2593
LM 1460 DATA 089D5C91989D3A91,2670
BI 1470 DATA A9068D9291D007A6,2808
FL 1480 DATA CDE8E4CCD0CA4CDE,3461
JF 1490 DATA 8148088E8F918C90,2871
IY 1500 DATA 91AE4D90BD5C918D,3119
VF 1510 DATA 0AD48D03D0BD3A91,994
KK 1520 DATA F0314AB002902CFE,1075
LW 1530 DATA 5C91FE5C9148BD5C,1237
CL 1540 DATA 91C9E1689007A900,1215
EQ 1550 DATA 9D3A91F0164A9013,1143
FB 1560 DATA DE5C91DE5C91DE5C,1580
LF 1570 DATA 91DE5C91BD5C91C9,1643
YH 1580 DATA 1490E3E88E4D90E0,1686
WX 1590 DATA 22F00BAE8F91AC90,1603
KM 1600 DATA 91A900286840A00C,1298
YR 1610 DATA.A200BD5C912908F0,1545
TW 1620 DATA 04A918D002A93C99,1521
ST 1630 DATA 806FE8C8C8C8E022,2125
MX 1640 DATA D0E8A9008D4D9085,1964
EM 1650 DATA 4DF0D0CE92910A8D,2097
HS 1660 DATA 06D2AD929145A18D,2039
RT 1670 DATA 07D260AD8E918D02,1968
DA 1680 DATA D209808D03D2CE8E,2165
UA 1690 DATA 911005A9008D8E91,1943
LU 1700 DATA A200BDC290F056A9,2428
MM 1710 DATA 3F8D3185A929A038,2120
MQ 1720 DATA 20FB84BDC2900A0A,2334
DO 1730 DATA 489003203585680A,1987
TD 1740 DATA 489003204585680A,2067
PU 1750 DATA 9003205785BDC290,2490
WK 1760 DATA F02BA829F09DC290,2855
YY 1770 DATA 98290FA8881006A9,2395
TL 1780 DATA 00A89DC290981DC2,2794
NJ 1790 DATA 909DC290BDC29010,3002
QY 1800 DATA 0CA9408D3185A909,2630
BV 1810 DATA A01820FB84E8E028,3043
QT 1820 DATA D0A0608C10858D30,2954
NN 1830 DATA 85BDEA90484A4A85,1081
BM 1840 DATA CB68482903F00BA8;934
HI 1850 DATA 386E31856E318588,932
GC 1860 DATA D0F6BD12910AA8B9,1389
OH 1870 DATA 000685CDC8B90006,1019
EL 1880 DATA 85CE684A4AA8B1CD,1489
VG 1890 DATA 290091CD60DE1291,1284
ZF 1900 DATA BD1291C9669005A9,1449
VU 1910 DATA 009DC29060FE1291,1548
KV 1920 DATA 203885DEEA90BDEA,1848
BK 1930 DATA 90C9A090EFB0E8FE,2218
PX 1940 DATA 1291203885FEEA90,1748
OL 1950 DATA D0EC00AD8C9138E9,1987
SM 1960 DATA 0AA884CBB99391A8,2018
EQ 1970 DATA B95C9185CCA90099,2005
HY 1980 DATA 3A91995C9120A182,1904
DO 1990 DATA A5CC201386A90120,1808
TG 2000 DATA 7C86A5CBC966B036,2275
WU 2010 DATA A5CCC9C0B030A002,2328
WD 2020 DATA B9469020A7858810,2127
QM 2030 DATA F7A90C8D8E91608D,2401
GQ 2040 DATA B285A200BDC29030,2420
UE 2050 DATA 10A9CF9DC290A5CB,2691
KX 2060 DATA 9D1291A5CC9DEA90,2724
TB 2070 DATA 60E8E028D0E660B9,2875
VZ 2080 DATA 8591201386B98291,2551
DC 2090 DATA 201986A900998591,2483
GC 2100 DATA 84D4A914A6D4E820,2931
SO 2110 DATA 7A8320A182208A85,2699
SG 2120 DATA A4D4A91E8D8791A5,3045
JT 2130 DATA 142901AABD499099,2739
OQ 2140 DATA 8591AD0AD2C966B0,3162
XD 2150 DATA F9C90A90F5998291,1305
QZ 2160 DATA BD4B90998891A903,1106
IE 2170 DATA 4C7C8638E92A85CC,1158
LJ 2180 DATA 6038E90585CB60AD,1215
KM 2190 DATA 91912903D016AD0A,1031
LX 2200 DATA D229076D8491E902,1227
GX 2210 DATA 201386AD81912019,1101
QQ 2220 DATA 86208A85AD919129,1417
BW 2230 DATA 0F09A08D07D28D05,1228
VW 2240 DATA D2AD919118697FAA,1703
RZ 2250 DATA 8E04D2CA8E06D2EE,1822
TM 2260 DATA 9191300160A208A9,1506
HH 2270 DATA 009D00D2CA10FAAD,1804
HC 2280 DATA 5090CD4E90900AD0,1873
XS 2290 DATA 21AD5190CD4F90B0,1959
UP 2300 DATA 194C0080F8186D50,1678
AO 2310 DATA 908D509090008A900,1882
AN 2320 DATA 6D51908D5190D84C,2108
EY 2330 DATA FF82A99FA2009D2D,2257
SV 2340 DATA 90E8E008D0F8AD50,2561
NL 2350 DATA 908D4E90AD51908D,2354
CN 2360 DATA 4F90200983201C87,1962
TD 2370 DATA A220A9039D4203A9,2197
BC 2380 DATA 049D4A03A9199D44,2157
WE 2390 DATA 03A9879D45032056,2218
IY 2400 DATA E4A90085CBA220A9,2724
IC 2410 DATA 079D4203A9009D48,2323
XS 2420 DATA 039D49032056E4C9,2539
VV 2430 DATA 2090EAC99BF019C9,3052
OP 2440 DATA 7EF0A7C95BB0DE38,3163
GU 2450 DATA E9200940A6CB9D2D,2857
IC 2460 DATA 90E886CBE008D0CD,3370
VM 2470 DATA 201C87A200BD2D90,763
BX 2480 DATA 2980F005A9009D2D,877
SI 2490 DATA 90E8E008D0EF4C00,1287
MI 2500 DATA 804B3A00A90CA220,856
HW 2510 DATA 9D42034C56E40000,900
PS 3000 RESTORE 10000:OPEN #2,8,128,"C:"
CP 3010 POKE 834+32,11:POKE 836+32,0:POKE
   837+32,128
TQ 3015 POKE 840+32,0:POKE 841+32,17
HJ 3020 A=USR(ADR("hhh█LV█"),32):CLOSE #2
   :GOTO 9000
US 4000 OPEN #2,8,128,"D:FIGHTER.COM":POK
   E 736,0:POKE 737,128:FOR BL=0 TO 3
HC 4005 GOSUB 7000:A=65535:GOSUB 8000:A=A
   D:GOSUB 8000:A=LS:GOSUB 8000
DR 4010 FOR F=AD TO LS:PUT #2,PEEK(F):NEX
   T F:NEXT BL:GOTO 9000
GR 5000 TRAP 40000:? "1=CASS. 2=DISK":INP
   UT A$
II 5010 IF A$="1" THEN 3000
JT 5020 IF A$="2" THEN 4000
NM 5030 GOTO 2000
BG 6000 ? " ERROR : ";PEEK(195):END
NF 7000 RESTORE 10000+BL*10:READ AD,LS:RE
   TURN
OB 8000 PUT #2,A-256*INT(A/256):PUT #2,IN
   T(A/256):RETURN
ZS 9000 ? "DONE.":CLR :END
AU 10000 DATA 36864,36956
PZ 10010 DATA 37052,37057
AO 10020 DATA 32768,34597
OD 10030 DATA 736,737
```

```
EI 1 REM ********************************
DH 2 REM *  CASSETTE LOAD ROUTINE FOR   *
AD 3 REM *  FIGHTER - RECORD ON TAPE    *
ST 4 REM *  BEFORE RUNNING MAIN PROG    *
EM 5 REM ********************************
NL 6 REM
LK 3000 RESTORE 10000:OPEN #2,4,128,"C:"
KA 3010 POKE 834+32,7:POKE 836+32,0:POKE
   837+32,128
TQ 3015 POKE 840+32,0:POKE 841+32,17
GX 3020 A=USR(ADR("hhh█LV█"),32):CLOSE #2
   :A=USR(32768)
```

CHROMACAD MODEL BUILDER 91 and SURFACE SHADER XE91

a Short Review

Ian Finlayson makes an initial appraisal of some exciting new serious software



3-D Model Rendering (TV Screen Photo)

"I have two new programs for the Atari 8-bit computers to review". That sounds pretty startling on its own these days, but how about *"I have two very impressive new programs which are not games to review"*. That is really startling. Unfortunately I have only had these two programs for a couple of days and the copy deadline is imminent, so I have only had time for a quick initial look at these packages. I need some time to investigate them fully so I will do a quick initial appraisal now and come back with a full report for next issue.

SERIOUS STUFF

First what are these programs for? Their names Model Builder and Surface Shader give a clue. Model Builder is a program to construct complex 3-D models, not just boxes, pyramids and spheres but complex sculpture like objects. The sculpture is built up from multiple layers each like a contour map. The contours can be highly detailed and the layers can be as thick or thin as you decide, so the end model can be very complex indeed. The publicity says "9,000 to 10,000 facet models are not unusual" (a facet is a triangular surface). I have not built any models of this sort of complexity, but there is an example of a human head on the disks which gives an indication that this is possible.

The documentation says that Model Builder works with Atari computers over 48K, it certainly works with an unmodified 800XL.

Surface Shader is for XE computers. It does not run on my standard 800XL, but there is a version included in the pack that is for expanded XEs and that works OK on my 800XL with the Rambo XL memory expansion. Surface Shader works with the models generated in Model Builder and allows the surfaces to be coloured and shaded. It can display up to ten models in up to six colours and provides a large variety of lighting and rendering options. It can produce images for 3-D viewing through red/green glasses. I have only had time to take a quick view of some of the models provided on disk. My first impression is that the program is slow - this is probably because it has a great deal of work to do. Also the finished models are flickery. I think this is because the program uses two or more screen frames to generate the picture shading. Each frame has a slightly different pixel shading pattern so that the overall effect is of even shading. Maybe the 50Hz screen refresh rate here in the UK makes the flicker more obvious than the US 60Hz system. This needs more investigation.

Software available from Gralin International

HIGH RESOLUTION

As you know the TV screen does not give very high resolution graphics. These programs are capable of generating detail that is beyond the capability of the normal display screen, but it is possible to split an image over several screens so that they can be photographed and then combined into one. I look forward to trying this to see what the results are like.

The programs come with a good quantity of documentation, and that is just as well as there is a lot to take in. Although the documentation says that the programs have been tested with 14 year olds, they are not for the faint hearted or impatient, but the manuals do lead you step by step through the various features of the programs in a tutorial style.

The programs are distributed in this country by Gralin International priced at £29.95 each. It seems to me on first acquaintance that the two programs go together so closely that you will need both. Not cheap but then, unlike many other recent packages, they are not cheaply presented with extensive, professionally produced manuals.

ANY GOOD?

So first impressions are that this is an exciting new package which will be of considerable interest to those who are serious about the graphic arts but cannot afford the very high prices of dedicated graphics computers. But I think that a good deal of patience will be essential.

MASTERING MIDI M

John van der Spoel discovers new depths to the popular Midimaster sequencer

As a buyer of New Atari User's Midimaster I've always been a bit disappointed that I have never seen any user's articles supporting this package. So, after reading "Making Music" in issue 52 about the Yamaha PSS 790 synth, I decided to start up my good old Atari Writer Plus to put something on paper about my own experience with my PSS 790 and Midimaster.

INITIAL PROBLEMS

Shortly after buying Midimaster I discovered the major problem John S. Davison wrote about, when I found out the PSS 790 is not able to use the RETIME command of Midimaster properly. This problem was solved by buying an extra keyboard (a bargain PSS 480). Apart from the fact that I could now use Midimaster's sequencer to retime my songs, I discovered another possibility - using the two keyboards connected to each other with one midi-cable, it appeared to be possible to transfer Music Composer Songs into sequencer format! For interested users of Midimaster I will describe how to do this later on.

Other possibilities of Midimaster, which are not described in the manual, are "dubbing" or "copying" tracks and "merging" tracks! These features are possible using only one keyboard. So, set up your equipment and let's go.

DUBBING TRACKS

What is the use of dubbing (or copying) tracks? Well, if you create two identical tracks in your sequencer you can play each track with its own voice or program-number. It's great to hear songs this way, because two different instruments playing together make your songs sound "deeper". If you are smart enough you can even (using dubbing and merging) copy certain parts of a track onto a second track. In this way these parts of your music will sound more "full". The trick will work either with the PSS 790 and with the PSS 480, so I expect it to work with the PSS 680 and other synths as well.

Well, key in a track with your sequencer, or load a song ready made from disk and choose a track of this song you want to copy. Let's say you want to copy track 1, then proceed as follows:

- choose an empty track, for example track 5
- key in on track 1: PLY 01
- key in on track 5: REC 01
- set ALL other tracks to 00 (PLY and REC)
* set your keyboard to midimode 00
- set your keyboard channels: transmit: 1 / receive 1
- hit R (record)
- check if the buffer is counting down
- press OPTION when track 1 has finished to play
- set track 5 back to REC 00
- now key in a different program-number on both tracks 1 and 5
- set track 1 to PLY 01
- set track 5 to PLY 05
* set your keyboard to midimode 99
- press P (play)

* = NOT necessary on the PSS 790!

Now you will hear two identical tracks, each playing its own instrument! It really sounds great. Try it!

MERGING TRACKS

Merging is possible in nearly the same way as dubbing. The main use of merging is to add notes to a given track. Let's say you want to add notes to track 1, because you've simply forgotten them or it appeared the sequencer did not pick them up while recording. Proceed as follows:

- set track 1 to PLY 01 and ALL other tracks to PLY 00
- set an empty track (for example track 2) to REC 02
* set your keyboard to midimode 99
* set your keyboard channels: transmit 2 / receive 1
- press R (record)
- while hearing track 1, key in the notes you want to add at the right moment. (You will notice you don't hear these notes on the PSS 480 so you have to use your feeling or you have to retime these notes later on. Another way in midimode 00 is: connect your midi-out plug to the PSS 480 and your midi-in plug to the PSS 790: this way you will hear the notes you add being played on the PSS 480 and the notes on track 1 on the PSS 790).
- when you're finished, set tracks 1 and 2 both to PLY 03
- set track 3 to REC 03
* set your keyboard to midimode 00
* set your keyboard channels: transmit 3 / receive 3
- press R (record)

* = NOT necessary on the PSS 790!

MASTER

Tracks 1 and 2 will now merge on track 3! You've created a new track and you can wipe tracks 1 and 2 and copy track 3 to track 1 if you wish. Before doing this though first check if track 3 sounds okay.

I have to admit merging does not always work properly. I don't know exactly why, but I expect the problem is caused when notes have "run into each other".

So, if you want to merge tracks you have to take care that the note-on and note-off messages on both tracks don't overlap each other. The trick is to play notes just into a "gap" on the track you want to add them to.

TRANSFERRING MUSIC COMPOSER FILES

As you will have noticed Midimaster's editing functions are not very ideal. So, if you could use a proper music-program to create and/or edit songs and could transfer these songs into sequencer-format later on, it would be a great improvement.

For that reason I tried to find out how to transfer Music Composer Songs and Advanced Music System Songs into sequencer format. This could open great new possibilities such as adding percussion for example. I recently succeeded in transferring Music Composer songs but sadly it has proved impossible, so far, to transfer AMS songs correctly. Maybe the notes of these songs are too complex and confuse the sequencer. It could also be possible that the Midimaster package (software and/or hardware) is not fast enough to record the notes correctly. Is there anybody out there who can tell? I don't understand, because the AMS midi-player program does play the AMS songs correctly and you can store them in your keyboard-memory!

Anyway, you can start transferring Music Composer songs as follows:

- load the MC midi-player program and adjust tempo if necessary
- set the player to POLY mode
- play the song and store each voice of the song into a separate memory bank of your keyboard (Maybe you have to refer to your manual how to do this).
- be sure while playing back your keyboard memory banks that each bank transmits its own channel: e.g. bank 1 stores voice 1 and transmits on channel 1, bank 2 stores voice 2 and transmits on channel 2, and so on
- now start up the sequencer program
- key in track 1: REC 01
  and track 2: REC 02
  and so on if the song has 3 or 4 voices
- to be sure the sequencer will record all notes you can store the same voice of a song in several memory banks of your keyboard and record them double into the sequencer using 2 or more tracks for each bank
- connect your PSS 480 keyboard midi-out port with a midi-cable to the midi-in port of the PSS 790
- connect only the midi-out port of the PSS 790 with your XL-system
- leave out Midimaster's midi-in plug
- now play the memory banks of your keyboard ALL TOGETHER (as Midimaster has no clock facilities) from the PSS 480 using the PSS 790 into the sequencer and check if the buffer is counting down.

Well, now the Music Composer Song is recorded in sequencer-format and you could add percussion or other instruments to improve the song! I suggest you start with a song containing just two voices. When you've managed to do this, then try a song with 4 voices.

Notice this trick will not work on one keyboard, at least not on a single PSS 480 or a single PSS 790. If you play the memory banks of the PSS 480 straight into the sequencer, it only records the first note and then the sequencer locks up. The PSS 790 can't even store songs played by the midi-player programs, because the programs use channels 1, 2, 3 and 4, which channels are used by the PSS 790 to receive the vector synth-messages and not midi-messages. So ONLY playing the memory banks of the PSS 480 using the PSS 790 into the sequencer will do the trick!

A FINAL HINT

I also have another hint to use the RETIME command of Midimaster if your keyboard has no midimode 99 (or Local off-mode). Although you won't hear anything there is one method to make it work: just pull out the midi-in plug, set your keyboard channels: transmit 1/receive 1, press T and tap your keyboard keys to retime track 1. As you don't hear anything, you'll have to use your feeling or a metronome.

If you've got a second keyboard (or can borrow one from a friend) plug in the midi-in plug to this second keyboard, and you will hear your retiming capabilities as well!

READY-MADE SONGS

I have sent in some songs in sequencer format to NEW ATARI USER which you will find on this issue's disk. I hope more Midimaster users will submit songs so that a collection of Midimaster songs can be built up and made available in the Public Domain. This way users can hear each other's songs and learn about them.

The songs you will find on the disk are as follows:

SONG 1: THE ENTERTAINER

- Filename : ENTERTR.SEQ (051 sectors)

track	instrument	voice nr.	prog.nr.
1	piano	000	004
2	piano	000	004
3	jazzguitar	023	013
4	bass	085	081
5	piano	000	004
6	tambourine	096	101
7	ride cymbal	096	101
8	claves	096	101

This song was created using Music Composer and only consists of 2 voices, which are now "dubbed" on several tracks. The program numbers are meant to be used on the PSS 790 so will have to be adjusted for other synths. Other kinds of percussion can be chosen by transposing tracks 6, 7 and 8 up or down. Note that these will need to be sent to channel 16 on the PSS480 and 680.

SONG 2: THE FIFTH (intro-part)

Filename : FIFTH.SEQ (016 sectors)

track	instrument	voice nr.	prog.nr.
1	piano	000	004
2	piano	000	004
3	piano	000	004
4	strings	074	052

This song was created using Music Composer and consists of 4 voices. The program numbers are meant to be used on the PSS 790. The song repeats 2 times, using REPEAT 02. The GAP value (0290) is found by trial and error. Add your own percussion or try your own voices!

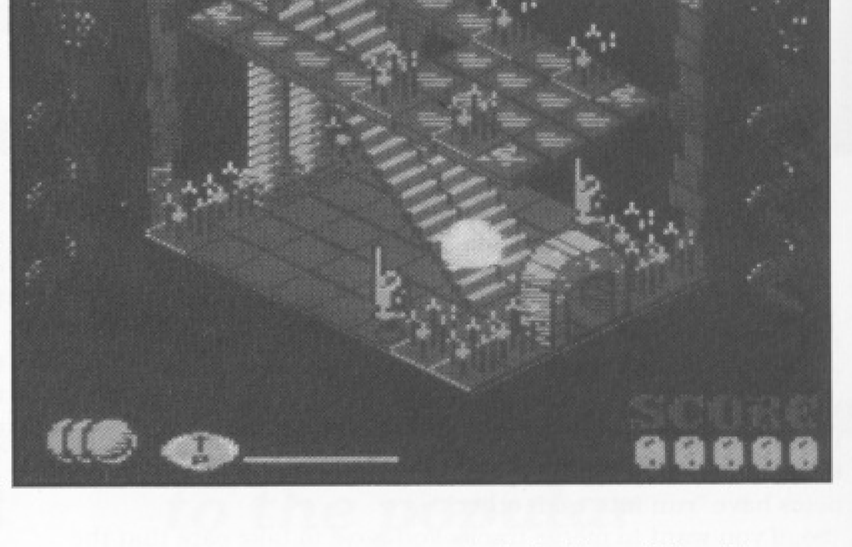
SONG 3: RONDO

Filename : RONDO.SEQ (058 sectors)

Track	instrument	voice nr.	prog.nr.
1	piano	000	004
2	bass	085	081
3	piano	000	004
4	strings	074	052
5	wood bass	090	082

This is a song created using Music Composer and consists of 2 voices, which are now "dubbed" on several tracks. Voice 1 is recorded to tracks 1 and 3, and voice 2 is recorded to tracks 2, 4 and 5. This one is very good. I like it most of all. Again the program voices are meant to be used on the PSS 790.

AIRBALL



Despite the absence of new 8-bit releases in the UK, there are still a few items of good news for Atari gamers. The lack of products to sell has prompted some vendors to import games from Europe and the States which have not been widely distributed here before. A typical example is AIRBALL - a ROM cartridge from Atari US, developed by Microdeal US and packaged for the short-lived 'XE Video Game' promotion a few years ago. It appears that Atari, with their legendary wisdom, didn't think that British users would be interested in Airball so it's only now that we are able to judge for ourselves. The review copy was kindly supplied by Micro Discount.

The story begins when you happen to become acquainted with an Evil Wizard. Not being a particularly pleasant chap (as you might have expected, really) he immediately threatens to transform you into a ball and send you bouncing off into a vast mansion. Once you're in there, he explains, you'll need to pick up various objects and search for a spellbook if you ever want to escape. It doesn't take a great deal of time for you to decide that it's not one of the most appealing afternoon activities you've ever heard of, and you're just about to make a run for it when the Evil Wizard begins to cast his terrible spell - "Mortal human, weak and small, turn into a bouncing ball". In the end there's not a lot you can do except embark on this peculiar mission.

Airball shares many characteristics with arcade adventures such as Chimera, Head Over Heels and Molecule Man which originate from the age-old 'Alien-8' concept. It's based on a complex of over 150 rooms, each presented in highly detailed graphics and positioned diagonally to form a realistic 3-D perspective. There are lots of ingenious touches and a wide variety of ramps, archways and platforms throughout the system. There's a general impression that the game's author has put lots of effort into graphic design. The music is of a similar high quality, though as usual it does become rather irritating after a while.

When the game kicks off you're situated on top of an air pump in the main room of the magic mansion. Air pumps are of major significance because you're suffering from a slow puncture! You must sit on the pump to re-inflate yourself, but don't hang around too long or you'll pop! Once you've obtained enough air you should roll off the pump and start to explore the surroundings. To move you simply push the joystick in the desired direction whilst the fire button lets you jump onto ledges, climb stairs and negotiate certain obstacles. Naturally the Wizard has ensured there's no shortage of spears, spikes, prickly floor tiles and other piercing hazards for you to contend with. If you're unlucky enough to hit them you instantly deflate, whiz around the room in shreds and return to the last air pump you visited. Amusing as it is, you only have a few lives in reserve so you can't afford to do this too often!

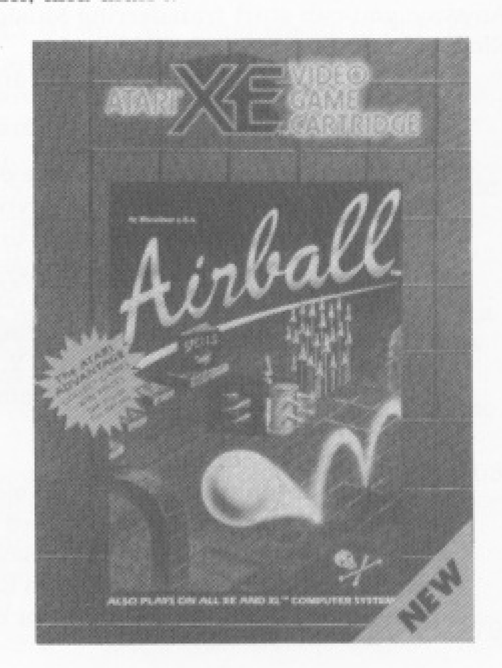
As you meander through the mansion you should keep your eyes peeled for precious stones and gold bricks scattered on the floor. The Wizard has concealed a flashlight, a lantern and a candle in certain rooms and you can be sure these will be needed sooner or later. You can only carry one object at a time though, so you may have to drop one and return for it later. Occasionally you may find a crate which can be moved to reveal a hidden treasure or strategically positioned to avoid other hazards. When you eventually find the spellbook, you should take it to the starting room and await further instructions. As with all adventures of this type, the best advice is to make a map!

I must say I was pleasantly surprised by Airball. The graphics are superb and the game as a whole should keep you entertained for many hours. On a critical note, I'd like to see a few more components to the task in hand - alternative difficulty settings for example - but this is a minor complaint of an essentially excellent package.

Atari are probably better known for their mistakes than their achievements and their failure to release Airball this side of the Atlantic can only serve to justify this reputation. Atari UK have long since abandoned the 8-bit altogether but it makes you wonder how many more top-notch games they had the rights to publish, and didn't.

Title:	**AIRBALL**
Publisher:	**Atari Corp.**
Price:	**£17.95**
Format:	**ROM Cartridge**
Players:	**1**

Reviewed by Paul Rixon



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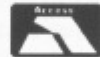
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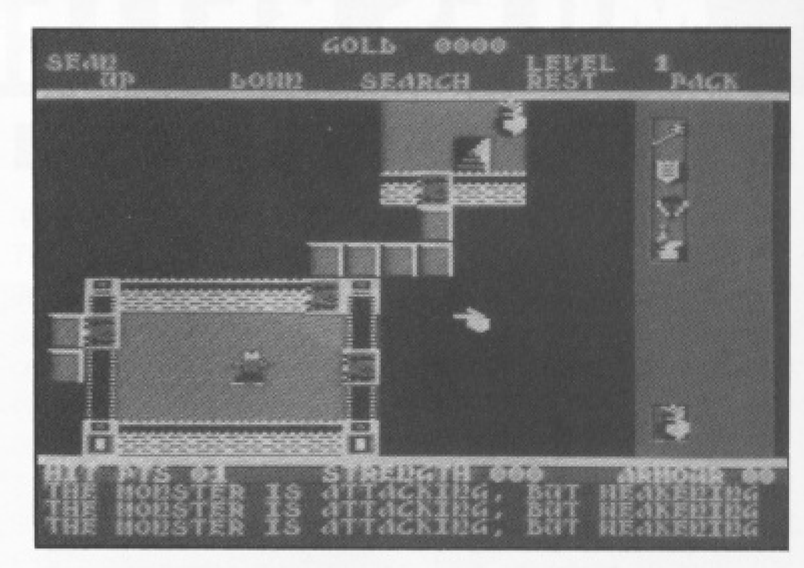
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ROGUE



Here's a rarity amongst Mastertronic's Atari range - a game which doesn't seem to have any direct competition from other budget products. ROGUE is a role-playing adventure that gradually unfolds in the dingiest dungeons of doom!

As the Rogue, your mission is to explore the dangerous dungeons in search of the Amulet of Yendor. For protection you have some armour, your trusty enchanted mace plus a bow and arrow. Your edible provisions are limited to one meal so as you descend through the levels you'd be wise to acquire additional food, as well as better armour and more destructive weapons. If you're lucky you may also stumble upon hidden treasures - gold pieces, magical items, potions, rings and scrolls that will help in your quest for the Amulet. Watch out for the monsters and traps though!

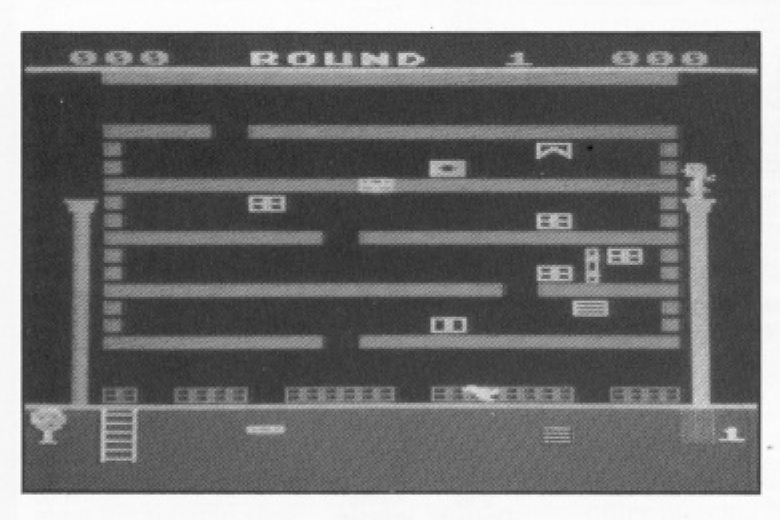
Before you commence play you're required to enter your name. A menu appears offering you a choice of starting the adventure, selecting a joystick or restoring a previously saved game. A status line at the bottom of the screen displays your maximum 'hit' tolerance, your strength and the protective value of your armour. The main screen portion consists of a map of the dungeon system, which gradually builds up as your explore new sections. To manipulate your character you must position a cursor on the map and press the fire button so that he moves towards it. You can also point at one of several keywords displayed above - Up and Down have an obvious purpose if you're positioned at the top or bottom of a stairway and Search will tell you if there are hidden traps or treasures in the immediate vicinity. Objects are picked up when you walk over them, provided your carrying pack isn't already full. If it is you may need to drop, eat or wear something. Simply point at the required object and you're presented with a menu of options. You can't wear more than one set of armour at once, and wielding one weapon will unwield another. You can kill Monsters by shooting arrows from a distance or zapping them with your wand.

A whole world of exploration and discovery awaits the next Rogue. The graphics aren't stunning but the general approach is quite novel and the game would seem to offer lasting appeal. If you enjoy role-playing adventures, this is one you won't want to miss.

Title:	**ROGUE**
Publisher:	**Mastertronic**
Price:	**£1.99**
Players:	**1**
Format:	**Cassette**

Reviewed by Paul Rixon

DESPATCH RIDER



It would seem there's no limit to the range of activities and occupations that have been subjected to micro simulation. The job of a Despatch Rider may not spring readily to mind as the most obvious choice for computerisation, but Mastertronic have proved it can be done!

The objective of the Despatch Rider (yes, that's you!) is to earn as much money as possible in a time scale of twelve hours, by collecting parcels from one part of a city and delivering them to another. The screen view is split into three sections, the largest of which is an overall plan of the city on which your current position and intended destination is displayed. Pressing the joystick trigger highlights four refuelling stations, but only for a total of two seconds per game. A panel in the middle of the screen comprises a clock to inform you of the ever-nearing deadline (a strangely familiar thought!), a fuel gauge and a tally of your current earnings. The third area is a 'zoom in' on your current location - it's this tiny box on which you must concentrate as it provides your only view of your trusty motorcycle, the curb, and any obstacles you must try to avoid. Poor weather conditions (shown above the map) could have an adverse affect on the bike's manoeuvrability.

Once you reach a pick-up point the view changes to represent a high-rise office building. The aim here is to catch parcels as they fall from the office windows. Assuming you manage to grab a package you must transport it as quickly as possible to the delivery zone, being careful to avoid collision with the kerb or dangerously placed skips. If you crash into the kerb you forfeit some time but if you hit a skip (a highly probable disaster as you can't see one coming in advance!) you're re-positioned at the starting base. In the last phase the parcels are delivered by firing them through open doors in another high-rise office building - it sounds easy but (problems, problems ...) the doors don't stay open for long!

Despatch Rider is basically one of Mastertronic's characteristic productions. You wouldn't call the neighbours around to see the graphics or listen to the music but the package as a whole is reasonably addictive. Compared with many full-priced games, Despatch Rider is a genuine bargain.

Title:	**DESPATCH RIDER**
Publisher:	**Mastertronic**
Price:	**£1.99**
Players:	**1**
Format:	**Cassette**

Reviewed by Paul Rixon

GO ON, OPEN THE CUPBOARD

Have you lost that old enthusiasm for your Atari? Don't worry it will come back. Remember Mark Hutchinson? Here's a story to give heart to anyone whose Atari has been locked away

I knew it had happened to other people, they wrote to me and warned me. Either that or suddenly, and for no known reason, they stopped their regular correspondence. Once, over a period of several weeks, I had seen someone degenerate before my eyes. Still, I had lasted longer than most. I had faith in myself. It just would not happen to me. I did not even know the name of it but I had hints that it was lurking out there.

It is amazing how you can ignore the symptoms when they happen before your very eyes. Mind wandering on to other subjects, staring unseeingly, fingers not working, ennui. Until, at last, you just do not bother any longer. Time passes and you never realise that months may have slipped by since you did anything. Worried? Does it all sound familiar? Can it be cured? Who knows? This is my story ....

JUST AN EVERYDAY FANATIC

Just over three years ago I was a healthy ATARI fanatic; I loved my 8-bit system and felt very comfortable with it. I could even help other people with their problems. I used my 16-bit system for more than games, but (and, for me, this was the first hint) for some reason I did not have the inclination to program the thing - even though I had several language packages at my beck and call. Apart from WP, I would fritter my time away with simple, low level games; or cards - bridge, until I worked out that the computer knew all the hands - and solitaire.

The next downward step was my promotion and moving onto an IBM mainframe. This should have stirred my blood but, because it was all new and I had a lot to learn, after doing a full day's work I was coming home mentally tired and found it hard to switch my mind off. More than ever I used the games as a panacea, but more and more I would find myself staring at a blank screen. I found excuses to do other things instead.

At that time I had been writing a regular column for PAGE 6 for some years and had just changed the format from a beginners tutorial to musings about the computer world. A lot of people seemed to like it, some did not. I found that, as I went on courses and the recession started to bite and some computer firms disappeared, I started to lose the computer contacts that kept me in information for my column. I decided to have a break from the magazine; after all, it had been a long time since I started writing from issue 5 and the only other person who could beat my number of contributions was the Editor himself.

THE SYMPTOMS AND SOLUTION

I rested for a few months before I realised that I had the same symptoms as all those people before me. Suddenly I felt very old and mortal, another step in the downward path. I wanted to do things but it was always "manana". I re-read my correspondence, but there was no solution for me.

Strange how fate can take a hand in matters and from a totally unconnected source. I am an avid real ale drinker when I can get it but never joined CAMRA, the Campaign for Real Ale, because we have so little real ale in the province that it practically does not count. I did not even know we had a local branch (set up ten years ago, which shows how active the past committees were!) until I was drinking beside a Scotsman who started to talk about beers. It turned out that this very same Scotsman was the current Chairman of the N. Ireland branch! So, I joined and started to complain about lack of outings, meetings etc. Well, you know what happens when you start that? Right, I got elected as Social Organiser.

HEY THIS COMPUTER IS USEFUL!

Shortly after this I needed to contact the membership about events, so I turned to my faithful, and much neglected, STWRITER. I used an old American program called PRINTMASTER to set up posters for events. Towards the end of my year's term I started up the branch's first quarterly newsletter. I used FLEET STREET PUBLISHER, an original version and much superseded by now. I had help from a girl who used WORD PERFECT 5 on an IBM compatible and in return I told her about computers and word processors. I even swopped my 9-pin TAXAN printer for a 24-pin Epson. I had hit bottom but was bouncing back!

As an aside,I had seen WORD PERFECT with windows and I thought that I would like this as it is a powerful, fully fledged WP package that can be used for DTP as well. It was in IBM format so I decided to get AT-ONCE, a bad choice and a sort of a setback, but that is another story.

FINDING A CURE?

So, am I cured? Who Knows? I still have to spring clean the computing room, file things away, tidy up my hard disk and catalogue all my floppies again. In fact, all the hard work that helped cause the dreaded malaise. But I am now Chairman with a threefold increase in membership since last year, a heavy social diary for the branch and my policy is very progressive. I want to get things organised and that means work, not only for me but for my computer as well. I have found my cure and, while it may not get me back to those dizzy heights I attained several years ago, I am on an upward path.

I hope that this tale brings hope to all the ATARI users out there who have a computer gathering dust. It can be done, it has been done.

This tale has ended but my story has begun again.

Mark Hutchinson

THE ATARI CHARACTER SET

Ann O'Driscoll presents a basic, no frills, introduction to defining character sets which, if used with one or two other articles should set you on the way to redesigning your Atari

THE BASICS

The standard Atari character set is made up of 128 different characters, each consisting of 8 lines of 8 bits (1 byte). The set takes up 1K or 4 pages of memory (128 characters x 8 bytes each = 1024 bytes) and is stored in ROM from locations 57344 to 58367.

Memory location 756 is a shadow register for 54281 and points to the start of the ROM character set. Normally, PEEK(756) = 224, indicating that the characters start at page 224 (224 pages x 256 bytes/page = 57344) as shown above.

INVERSE CHARACTERS AND INTERNAL CODES

The 128 inverse characters, with ASCII numbers from 128 to 255, are accessed by "turning on" bit 7 of the normal characters. You do this when you press the ATARI key; you can also use POKE 694,128. The computer's display handler (S:) checks the ASCII codes with the value in location 694 before it prints to the screen. While the inverse characters aren't stored separately in ROM, they do have their own internal code; this is got by adding 128 to the ROM order figures given above. Table 2 shows the internal codes for all 256 characters.

Internal codes are mainly encountered when you POKE to or PEEK screen RAM. Each point on the screen is stored in memory locations in RAM. The numbers held in screen RAM for each character are the internal codes. For example, if you print a "B" at a particular point on the screen and then PEEK the memory location for this point the value 34 is returned (ASCII for B=66; then subtract 32). Similarly, you have to POKE the internal code values to get your characters printed.

CREATING NEW CHARACTER SETS

To make a new character set you must:

1. Reserve an area in RAM for the set
2. Copy the ROM set into the reserved area
3. Alter the shapes of the RAM set by poking in new data
4. Tell the computer to use the new RAM set

The short listing given here redefines three characters to show these steps in operation.

Step One - Reserving RAM

This is usually done by moving the top of user memory - generally called "RAMTOP" - down to a lower memory location. The area between the new RAMTOP and the old RAMTOP is then used for the set. Four pages of memory (256 bytes X 4 = 1K) need to be reserved for a full set.

Memory location 106 holds the page number for the top of RAMTOP. PEEK(106) normally returns the value 160, showing that RAMTOP is at page 160 or memory location 40960 (= 160 x 256). We move RAMTOP with the command POKE 106,n where "n" is our new page number. Line 220 of the listing starts the character set at page 152 and Line 230 moves RAMTOP to page 151. You may notice that this leaves 256 bytes - between the top of the new RAMTOP and the start of the RAM character set - vacant. This was done because some commands clear out the locations just above RAMTOP. Generally it's safe enough to leave one free page as is done here, as graphics and clear screen commands wipe out just 64 bytes. However, scrolling the text window clears 800 bytes of memory above RAMTOP so programs with such routines need a much bigger gap between the new RAMTOP and the beginning of the revised character set.

Step Two - Copy from ROM to RAM

This can be done from BASIC or by way of a machine code routine - the listing gives you a choice between the two methods (Line 260).

With the Basic routine, we first define the beginning of the ROM and RAM character sets by multiplying their page number starts by 256 (lines 290 and 295 respectively). Next we use a FOR NEXT loop to copy each of the 1024 character bytes from their ROM memory locations to RAM. You will see that the routine is quite slow. The countdown display at Line 335 contributes in part to this; it was included to make the waiting more interesting but is entirely optional and can be omitted if you want faster copying. Another way to speed things up is to turn off the screen (with a POKE 559,0) during the duplication. To try this out, take away the REM statements from Lines 305 and 345; you could also delete Line 335, as the countdown is superfluous with a blank screen.

As might be expected, the machine code transfer is extremely fast. A number of routines are available to do this. The one shown here is as handy as any and was taken from an old issue of Page 6 (article on animation by Robert Gibbons in Issue no. 35). The machine code data, stored in Lines 460-470, is put into the M$ string by the FOR NEXT loop and then called up by Line 450.

Step Three - Altering the shapes

The first stage here is to decide which shapes you want to alter. Since you can only define new characters at the expense of characters already in the computer, you should use up the

```
CS 1 REM ##############################
KZ 2 REM #     REDEFINING CHARACTERS    #
FU 3 REM #            by                #
GV 4 REM #        Ann O'Driscoll        #
SG 5 REM # ---------------------------- #
CE 6 REM # NEW ATARI USER - MARCH '92   #
CY 7 REM ##############################
NN 8 REM
SQ 199 REM  REDEFINE CHARACTERS DEMO
XL 200 GRAPHICS 0:? :? "THREE CHARACTERS
   - # $ AND % -":? "ARE REDEFINED IN THI
   S DEMO":? :?
RW 217 REM  STEP 1: RESERVE AREA OF RAM
XI 218 REM            TO HOLD THE NEW SET
LO 220 NB=152
QI 230 POKE 106,NB-1
LT 247 REM  STEP 2: MOVE ROM SET TO RAM
HC 250 ? "MOVE SET FROM ROM TO RAM":?
PB 260 ? "1 = BASIC ROUTINE":? :? "2 = MA
   CHINE CODE":? :? "PLEASE PRESS 1 OR 2"
   :POKE 764,255
VT 270 IF PEEK(764)<>31 AND PEEK(764)<>30
    THEN 270
XX 280 IF PEEK(764)=30 THEN 390
TZ 288 REM  ----      WITH BASIC ROUTINE
DM 290 ROMB=PEEK(756)*256
MH 295 RAMB=NB*256
NX 300 POKE 752,1:? "↓↓↓BASIC MOVEMENT RO
   UTINE NOW OPERATING"
BG 305 REM P=PEEK(559):POKE 559,0
KB 310 FOR I=0 TO 1023
AM 320 J=PEEK(ROMB+I)
GU 330 POKE RAMB+I,J
FJ 335 POSITION 2,20:? "COUNTING DOWN ";1
   024-I;"  "
GB 340 NEXT I
FH 345 REM POKE 559,P
NQ 350 GOTO 600
IW 388 REM  ----      WITH MACHINE CODE
YJ 390 DIM M$(34)
VR 400 RESTORE 460
LR 405 RAMB=NB*256
UM 410 FOR I=1 TO 34
VZ 420 READ J
UQ 430 M$(I,I)=CHR$(J)
GC 440 NEXT I
ZG 450 X=USR(ADR(M$),RAMB)
PB 460 DATA 104,104,133,207,104,133,206,1
   69,0,133,204,169,224,133,205,162,4,160
   ,0,177
SX 470 DATA 204,145,206,136,208,249,230,2
   05,230,207,202,208,242,96
WS 597 REM  STEP 3: ALTER THE SHAPES BY
UF 598 REM             POKING IN NEW DATA
WF 600 RESTORE 650
IE 610 FOR BYTE=RAMB+24 TO RAMB+47
IA 620 READ DAT
GT 630 POKE BYTE,DAT
KK 640 NEXT BYTE
BK 650 DATA 0,0,15,255,146,255,63,3
ZU 660 DATA 60,255,255,255,102,255,255,12
   9
TE 670 DATA 0,0,240,255,73,255,252,192
FJ 697 REM  STEP 4: TELL ATARI TO USE
UO 698 REM              THE NEW RAM SET
PS 700 GRAPHICS 2:POKE 764,255
YQ 710 POKE 756,RAMB/256
FQ 727 REM -- DISPLAY THE NEW CHARACTERS
SX 730 POSITION 9,5:? #6;"#$%"
HK 740 POSITION 7,6:? #6;"--------"
OG 750 END
```

less useful ones first. Secondly, you must know the addresses of the bytes in RAM where the new DATA is to be POKEd. Table 3 shows where the opening characters in memory are located; our set is being moved to RAMB, so the first character starts at RAMB+0, the second at RAMB+8, and so on with the nth starting at RAMB+8*(n-1). Lastly, you must know what data to POKE in. Each character is 8 bytes long, and each byte can range in value from 0 to 255, depending on which bits are set or "on".

Th listing alters 3 consecutive characters - # $ and % - which take up the 24 bytes from RAMB+24 to RAMB+47 inclusively. The new data produces a spaceship shape when the 3 characters are printed together. Table 4 shows how the # character was altered to make the left hand side of the ship; the central and right hand parts were produced using the same principles.

Step Four - Tell the Atari to use the RAM set

We do this by POKEing the new opening page number into memory location 756. Line 710 of the listing directs the computer to page 152 or RAMB/256 as this is where the RAM set starts in this program. Incidentally, as a graphics command makes the contents of memory location 756 revert to the default value of 224, this POKE must follow every Graphics statement. Finally, Line 730 of the listing prints the redefined characters in the middle of the screen and the program ends.

TABLE 4: ORIGIN OF DATA AT Line 650 TO PRODUCE LEFT SIDE OF SPACESHIP

	BIT DATA VALUES 128 64 32 16 08 04 02 01 =SUM
Line 1	0 0 0 0 0 0 0 0 = 0
Line 2	0 0 0 0 0 0 0 0 = 0
Line 3	0 0 0 0 1 1 1 1 = 15
Line 4	1 1 1 1 1 1 1 1 = 255
Line 5	1 0 0 1 0 0 1 0 = 146
Line 6	1 1 1 1 1 1 1 1 = 255
Line 7	0 0 1 1 1 1 1 1 = 63
Line 8	0 0 0 0 0 0 1 1 = 3

TABLE 1: CHARACTER STORAGE IN ROM

ORDER IN ROM	(PAGE)	ASCII NO.
0 - 31	(224)	32 - 63
32 - 63	(225)	64 - 95
64 - 95	(226)	0 - 31
96 - 127	(227)	96 - 127

TABLE 2: INTERNAL CODES

INTERNAL ASCII NO.	CHANGE ASCII CODE TO CODE	BY
0 - 63	32 - 95	- 32
64 - 95	0 - 31	+ 64
96 - 127	96 - 127	do nothing
128 - 191	160 - 223	- 32
192 - 223	128 - 159	+ 64
224 - 255	224 - 255	do nothing

TABLE 3: LOCATION OF CHARACTERS IN MEMORY

POSITION	BYTES	CHARACTER
1	0- 7	SPACE
2	8- 15	!
3	16- 23	"
4	24- 31	#
5	32- 39	$
6	40- 47	%
7	48- 55	&
8	56- 63	'
9	64- 71	(
10	72- 79	)
11	80- 87	*
12	88- 95	+
13	96-103	,
14	104-111	-
15	112-119	.
16	120-127	/
17+	128+	NUMBERS 0 +

USEFUL APPLICATIONS

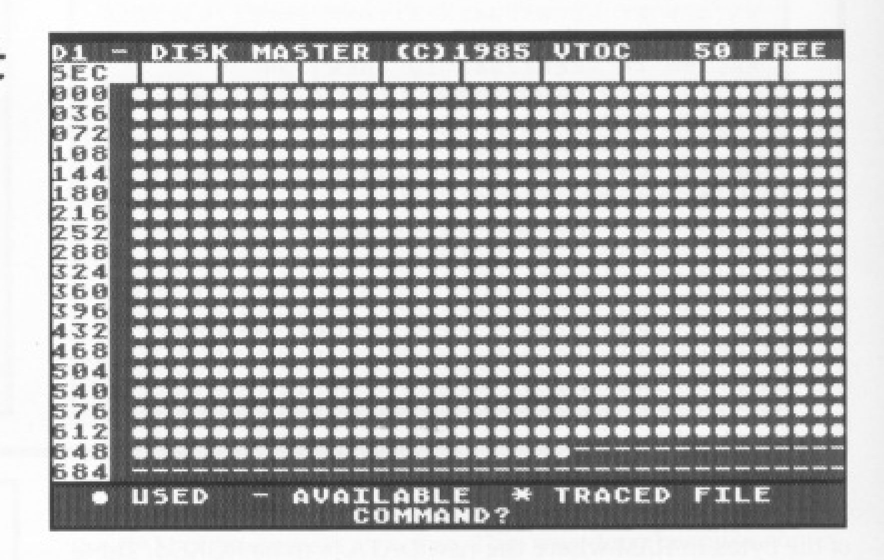
If you've looked on in envy at the goodies described in the ST File's PD World column, prepare to be amazed - the green gaze days are gone! In the first of a regular series, Edmund Blake describes the wealth of public domain software available for the 8-bits ...

Know what? As an Atari Classic user, you're one of the luckiest 8-bit owners in the UK. Sure, I know all about latest games which never make it to a conversion for the XL/XE, hardware suppliers whose stuff somehow stops short of finding its way into an expansion slot at the rear of our favourite machine, and the extreme lack of interest of every major magazine publisher (except, of course, the one whose mag you're holding in your hands right now ...), but what we've got, more than any other 8-bit micro, is a vast amount of copyright free software, and it's all just there for the taking. In this series I will explore the whole range beginning with a couple of the more serious programs that I have found to be extremely good.

DISK DIDDLING!

DiskMaster is a program typical of the quality of software available from the public domain. If you've ever wondered at what goes on beneath the floppy's flimsy outer casing, DiskMaster's the software to show it to you. Positively bristling with features, the program enables you to examine directories, data sectors, the VTOC - even binary files!

DiskMaster is controlled from a simple but smooth menu front-end. It's reminiscent of early 80s applications for the IBM PC, before programmers discovered how easy it was to produce drop-down menus, but don't let that put you off. Lacking user-interface razzamatazz sure, but DiskMaster is one of the best disk diddlers around. It's divided up into five sections,



each exposing a different face of the floppy. Sections include Directory, Sector, VTOC and Assembly Language, as well as a range of built-in DOS and drive utilities available from a separate menu.

Select the Directory section, and you're presented with the first sector of the current disk's directory. Size and location information is displayed for each file, together with a status indicator showing whether the file is active, deleted, locked or open.

There's a list of directory oriented commands across the bottom of the screen and using these you can lock, unlock and rename files, change drives or look at the next directory sector. Not only that - and this is where the Directory module gets interesting - but you can recover a deleted file or perform a program trace.

Trace automatically locates every sector associated with a selected file. And once traced, a binary file can be disassembled to the screen or printer by selecting the Assembly Language section from the main menu. Tracing protected software is out, but the feature is perfect for learning the coding secrets behind all those public domain programs you're about to acquire.

Back on the main menu, choosing Sector switches the program into an advanced sector editor. Sectors are displayed on a byte-indexed grid in both hex and ASCII, and the screen is divided into two sections with the upper showing the sector and the lower, pertinent information and a command prompt. If the sector on display is a file, the next link in its sector chain is also indicated.

You can address and change any byte, copy an entire sector or zero it. If you've previously traced a file, its first and last sectors can be displayed, and there's on-line help summoned with the console Help key.

One nice feature is Sector's ability to search for hex or ASCII strings. You can confine the search to a traced file or allow the program to search every sector.

The VTOC (Volume Table of Contents) is a one-sector map of

the disk's sector allocation. DiskMaster's VTOC section gets you right in amongst it. Traced files are indicated in the VTOC display, and you can edit and save any byte, print the VTOC or return to the main menu without change.

Finally, there's the Utilities section. Here you can format and check the integrity of disks, or test the speed of the drive.

See how each DiskMaster section compliments the others? Trace a file with the Directory module, examine its sector map in the VTOC section, then use the Sector module to edit the file's individual bytes. Each module is free-standing, but all work in close harmony.

The program is written in Action! and is very fast. All the sections work smoothly, and everything appears to be utterly crash-resistant.

There is a slight downside. DiskMaster will only work with Atari DOS disks. The program was written while SpartaDOS was still a twinkle in ICD's collective eye, and users of the replacement DOS will have to look elsewhere.

Not only that, but DiskMaster won't allow you to quit back to DOS - even Reset simply regurgitates the DiskMaster main menu. The program requires what the Americans call a 'power down cycle' (ugh!) to return to DOS. Annoying, but typical of the applications programming of yesteryear. You could, of course, use DiskMaster to disassemble itself and bypass the reset trapping routine.

Obviously, you'll need at least a nodding familiarity with Atari's disk structure to get the most from the program (there's an excellent introduction by Steve Pedler in Page 6 issue 25), but DiskMaster is accompanied by excellent on-disk documentation, and there's no better way to learn than by experimentation - with copies of course!

If you're even vaguely interested in the dark recesses of your disks, get a copy of DiskMaster, you won't be disappointed.

ALL AT C?

A legend in its own link time, C is so sexy, everyone wants to code with it. Why? Because unlike BASIC, C is a bare-bones language which couples the advantages of machine code with a high-level command structure. In addition, it's supremely portable. You can write a program on the XL/XE, and run it on a PDP-11 down at your local poly.

With the possible exception of Lightspeed C, the various commercial attempts at an 8-bit version of the language were flawed and soon faded into obscurity. There was even an APX offering known as Deep Blue C but it was so bad, one Stateside reviewer quipped "...only the most desperate would attempt to use it". Strong stuff!

John Palevich, the programmer behind Deep Blue, wasn't about to take criticism like that lying down. He joined forces with Ralph Walden and together they wrote ACE C, the duo's answer to DBC's critics. Most of DBC's functions were re-written in assembler, then formed into a separate run-time module known as the Engine. The result is a C compiler producing code which executes 10 to 15 times faster than Deep Blue C's. Infinitely faster compile times and an extended function range complete a package which is as close to a standard C you can get without the addition of a big fat price tag.

ACE C comes on a double-sided disk containing the compiler, linker, 'manual' and a selection of sample programs. First though, let's take a minute to get that manual out of the way.

Unless you're familiar with C, the on-disk docs are almost entirely useless. They're well written, but intended simply as a get-you-going guide to the peculiarities of ACE. Text files detailing the differences between ACE and Deep Blue C, in-line assembler routines, graphics handling and so on abound, but as a novice, you'll need to look elsewhere for a tutorial ('Learning to Program in C' by Noel Kantaris, priced £4.95, and published by Bernard Babani ISBN 0859342034 is an excellent cheap introduction).

Writing C programs with ACE is a breeze. Boot your favourite text editor, hack in the code, and save it with a .C extension. Then run the compiler. This produces an intermediary .CCC file. Now run the linker. The result is an executable .COM file.

To reduce program size, C library and Atari graphics functions can be kept external, appearing alongside your C program as a runtime module. Alternatively, you can include them in the code, creating standalone software which can be distributed to friends.

How close to Kernighan and Ritchie is it? Surprisingly so. ACE provides pointer and extern as well as char and int declarations, arrays (single dimension only), lashings of unary and binary operators, #DEFINE and #INCLUDE, various constants and a decent compliment of statements including SWITCH and CASE.

In addition, the compiler takes a healthy stab at the floating point hurdle. The stumbling block of most 8-bit Cs, ACE provides a vaguely sensible way around the problems associated with floating point manipulation, without actually implementing it as a data type.

Bottom line? It's excellent. For all those receiving daily C assignments at college, BASIC programmers looking for an alternative, or dabblers casting about for something just the tiniest bit different, ACE C is perfect. A mere subset of C, sure, but at the princely sum of precisely nothing, you're unlikely to complain, right?

AND FINALLY ...

And you thought public domain was all about 16-bitters getting even more of their own way, while we Eighters were left out in the cold? Forget it! It isn't all serious stuff like the programs reviewed this month, either. Next time, I'll be taking a little look at some of the rowdy games you can expect to play for one stop short of nothing.

HOW TO GET THEM!

All of the programs featured in the column are available from the Page 6 8-bit PD library. Each has a unique reference code as a well as a distinct name, but it's the reference code you should use when ordering or making enquiries. Contact Page 6 if you don't have a copy of the PD catalogue or Accessory Shop leaflets, or to check system requirements for the programs. The disks referred to in this column are:

#106 DISKMASTER
DS #18 ACE C

Prices are £2.95 per disk, or £2.50 each for ten or more. Order from Page 6, PO Box 54, Stafford ST16 1DR. Telephone 0785 213928. FAX 0785 54355. (Credit card orders accepted).

Ian Finlayson's

TUTORIAL TIME

USING CHARACTER SETS

The uses of character sets with your Atari computer are varied. Many games for this computer use character sets rather than player missile graphics to achieve dynamic animated effects. A Pacman, for instance, could be made to move along a line by using a series of characters in a special character set. These characters would all be similar, but would each be drawn displaced one pixel to the right of the previous one. As the little figure is moved out of the 8 x 8 square that defines one character it becomes necessary to provide a combination of two adjacent characters to make up the whole. This may sound complicated, but it has the advantage that high speed animation can be achieved using quite a small amount of memory. However I digress from the subject I was going to talk about this time, and that is the loading and use of text character sets.

BACKGROUND

First a bit of background for those of you who know nothing of character sets. The text displayed on your television screen when using your Atari is generated as a matrix of dots on an 8 x 8 grid. You will see what I mean if you look closely at a black and white TV screen. On a colour set the structure is confused by the dot register of the TV set itself. The data from which these individual characters are created is stored in ROM inside your computer. ROM (read only memory) is the non-volatile memory in the computer which contains the fundamentals to make it work. ROM can not be changed by a program.

So, if ROM cannot be changed, how can we use a different character set? The answer is to hold the character set in RAM. The Atari computer normally uses the built in character set because there is a pointer in the operating system that is automatically set to point to the ROM character set on start up, but this pointer can be changed to point anywhere in memory. We can set up an alternative character set in RAM (volatile random access memory) and then point to it when we want to use it. Indeed we can have several character sets in memory at the same time if they are needed (and if there is enough memory available) and switch between them by re-directing the pointer. These character sets can be loaded from disk (or cassette) as this tutorial shows or alternatively we can copy the character set data from ROM into RAM and then modify it or create a new set from scratch within a program.

THE PROGRAM

The program shows how to copy two character sets from disk into RAM and then does a little demo of switching from one to another. I have used the IOCB (Input /Output Control Block) to move the character set data fast. This technique is the same as I described in a previous article about saving and loading screen picture data, so I will Keep the description brief.

Line 20 dimensions F$, the variable that will be used to store the name of the character set file to be loaded

Line 30 names the first character set to be loaded. I have called it FONT1.SET, but you will have to change this to the name of the set you want to use. You will find that character sets are 9 sector files on a disk. They usually have an extender of .FNT or .SET. A good source of fonts is the New Atari User disks if you have a disk subscription. There were several on the disk with issue 53 - December 1991/ January 1992. It should be possible to load a character set from cassette if you have one stored on tape by making the file name "C:". This is obviously not as fast as a load from disk, but if you are creating a game with a lot of changed characters it would be more efficient to load a modified character set that had already been created rather than to create the set from a large number of data statements within the program itself

Line 40 - This calls the character set load subroutine, then when it is loaded makes SET1 equal to the starting point of the new character set data in RAM

Lines 50 and 60 repeat lines 30 and 40 for a second character set

Line 70. Now the character sets are loaded we go to a simple demonstration of character set switching starting at line 220

Line 100 is the start of the character set load subroutine. The first thing it does is to reserve a bit of memory for the character data by moving the top of memory down 1Kbyte. Location 106 holds the high byte of the address of the top of memory (the low byte is always zero). This is reduced by 4 to reserve 1Kbyte (4 x 256 bytes). One character set is 126 characters of 8 bytes each, or 1Kbyte.

Line 110. The Graphics command in line 110 is there to reset the display list putting it below the new top of RAM. If you leave this line out you will see when you run the program that the character set data corrupts the display list as it loads, destroying the screen display.

Line 120 opens I/O Channel 1 to get data from the file

whose name is stored in the variable F$

Line 130 - Find the start of the IOCB

Line 140 - Put a 7 in the third byte of the IOCB to signify "get data"

Lines 150 and 160. ADRHI and ADRLO define the starting address to which the data is to be put, the start of the memory block already reserved. The values are poked into the fifth and sixth bytes of the IOCB (IOCB+4 and IOCB+5)

Lines 170 1nd 180. NUMLO and NUMHI define the amount of data to be transferred, in this case 1Kbyte. The values go into bytes nine and ten of the IOCB

Line 190 is where it actually happens. This is the machine code call to the IOCB which has been previously set up. Data transfer is quite quick. Once the transfer is complete the I/O channel is closed and we return from the subroutine

The remainder of the program is really just fooling about. I have arranged to list the first 10 lines of the program in the middle of the screen and then cycle through the three character sets (the Atari set and the two new ones). The rate of cycling is continuously changing, and the text appears to "wiggle".

WARNING

One word of warning. In this program, like any program which moves the top of RAM down, you should not RUN the program more than once. This is because each time you run it more memory is taken away until there is not enough for the program! Pressing RESET will restore memory to normal without destroying your program, it is then safe to RUN it again.

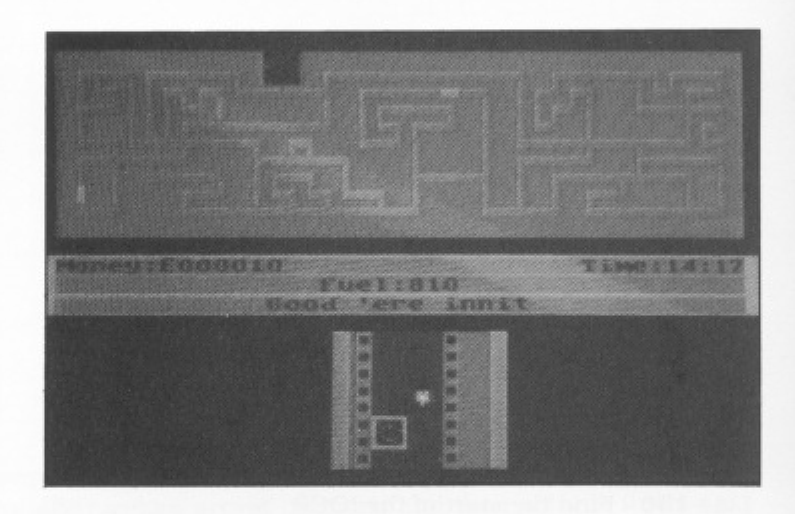
FURTHER DEVELOPMENTS

Once you have a character set in RAM it is possible to change it. There are some good character set editors about, one in the Page 6 public domain library on Disk #20 - UTILITIES 3. Alternatively you can change a character set by POKEing new data into the correct memory locations, but this is a bit laborious if you are changing more than a few characters. It is useful within a program to change one or two characters for a specific purpose without the necessity for loading a whole character set. Perhaps I should have a future article on this subject.

As always you can write to Ian Finlayson at 60, roundstone Crescent, East Preston, West Sussex BN16 1DQ

```
EI 1 REM ******************************
IY 2 REM *       TUTORIAL TIME        *
SL 3 REM *    CHARACTER SET LOAD      *
QT 4 REM *            BY              *
WL 5 REM *       Ian Finlayson        *
AD 6 REM *----------------------------*
WQ 7 REM * NEW ATARI USER - APRIL 1992 *
EP 8 REM ******************************
AY 10 REM
TT 20 DIM F$(16)
JM 29 REM *** SELECT CHARTER SET FILE
TT 30 F$="D:FONT1.SET"
FU 40 GOSUB 100:SET1=PEEK(106)
UJ 50 F$="D:FONT2.SET"
GN 60 GOSUB 100:SET2=PEEK(106)
LW 70 GOTO 220:REM CH SETS LOADED GOTO DE
   MO
JE 99 REM *** CHAR SET LOAD SUBROUTINE
FE 100 POKE 106,PEEK(106)-4
SI 110 GRAPHICS 0
OK 120 CH=1:OPEN #1,4,0,F$
QS 130 CH=CH*16:IOCB=832+CH
EY 140 POKE IOCB+2,7
EH 150 ADRHI=PEEK(106):ADRLO=0
KS 160 POKE IOCB+4,ADRLO:POKE IOCB+5,ADRH
   I
AR 170 NUMLO=0:NUMHI=4
QU 180 POKE IOCB+8,NUMLO:POKE IOCB+9,NUMH
   I
GL 190 A=USR(ADR("hhh□LV□"),CH):CLOSE #CH
   /16:RETURN
DX 219 REM *** SHORT DEMO
AT 220 SETA=PEEK(756)
TR 230 ? "↰↓↓↓":LIST 1,8
ZY 240 POKE (756),SETA
XC 250 FOR TIME=1 TO MANY:NEXT TIME
OK 260 POKE (756),SET1
XG 270 FOR TIME=1 TO MANY:NEXT TIME
PH 280 POKE (756),SET2
XK 290 FOR TIME=1 TO MANY:NEXT TIME
FQ 300 MANY=MANY+MORE:IF MANY<1 THEN MANY
   =1:MORE=10
NJ 310 IF MANY>100 THEN MORE=-10
NO 320 GOTO 240
```

LINKING LOGIC



Fisher-Price are well known manufacturers of educational toys but I wasn't aware they'd diversified into computer software. I also didn't know that Fisher-Price is a trade-mark of the Quaker Oats Company, but it's all revealed in the packaging of LINKING LOGIC - a learning game for the four to eight year old age category, recently imported from the States by Micro Discount.

Children of the specified age group are beginning to learn how to think logically and plan a series of actions. Linking Logic aims to stimulate these skills in an addictive game format and also teaches pattern recognition by asking Children to match up similar shapes. From my experience the greatest challenge here is working out exactly what you have to do! The usual method of 'load it and see what happens' met with little success, so I eventually had to resort to reading the instructions!

Linking Logic has a total of four difficulty levels and each level has four rounds. The screen depicts a 'building' constructed from five horizontal platforms with a partial row of tiles at the bottom edge of the building and status information in the borders. The player's task is to guide one of two alternative characters - Buddy or Betty - from a starting position at the top of the playfield to an exit point at the base. Throughout the journey you can instruct the chosen character to collect patterned tiles which correspond to those missing from the row at the bottom. If you grab tiles that don't match, you lose points. You can't directly control the path your character takes so to ensure that all the tiles can be obtained you must first position 'tools' throughout the building. The joystick manoeuvres Billy the Bird who can pick up certain useful objects at the foot of the screen and drop them again elsewhere. For example, a bridge might be used to prevent your character falling down a gap, or a ladder to climb back up. Each tool can only serve its purpose once, except for a double bridge which holds for two uses.

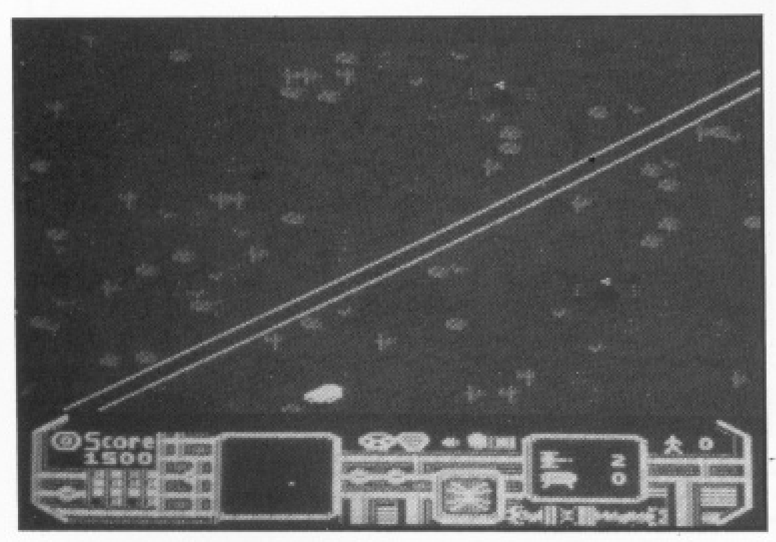
Unfortunately I wasn't able to test Linking Logic with the intended age group so I couldn't fully assess the suitability of the concept. However, I suspect that those children who are unable to rapidly complete the four levels may give up trying to decipher the rules!

Available from Micro Discount

Title:	**LINKING LOGIC**
Publisher:	**Fisher-Price**
Price:	**£8.95**
Players:	**1**
Format:	**ROM Cartridge**

Reviewed by Paul Rixon

PANTHER



Oh dear, not another shoot 'em up! Yep, 'fraid so. This one can only be described as Blue Max 2001 Mark 2. Your aim is to save the remaining humans on Planet Xenon before the alien hordes carry out their evil intentions, so what are you waiting for?

Naturally you're the only pilot in the Federation's air force capable of flying their top attack craft, the Panther. So when an alien invasion wipes out the whole of your planet's defences (except for the Panther of course) it's entirely down to you to save the day. All you've got to do is fly across the landscape and pick up any stranded humans you spot en route. Transport them to the spaceport and they should all be safe. Easy? Well, not exactly. The enemy have spread their forces far and wide so you're bound to come across the conscientious welcoming committee. The Panther has five 'Phoenix' shields to protect against direct hits, but they don't last for long once you're in the thick of battle.

The visual presentation of Panther is based upon diagonally scrolling graphics similar to those of Blue Max and Zaxxon. You begin your mission in the desert and fly across countryside and water before eventually reaching the City centre. Here you must skirt around sky scrapers to avoid interception by surface-to-air missile launchers. Strangely your craft resembles a miniature bar of soap and the screen design is such that you don't have an awful lot of space to manoeuvre. It's not easy to judge the accuracy of your shots at the enemy since unlike Blue Max, Panther offers no indication when you're travelling at a common altitude. You must either rely on the shadows, or just keep hitting the trigger! When you reduce altitude the speed of your ship decreases, and you stop completely if you take on extra passengers. Unfortunately the nasties don't have any sense of moral responsibility!

At first sight Panther seems quite impressive but on closer inspection you can't help feeling a greater effort could have been made. However, ignoring the ridiculously shapeless space craft, the graphics are above average and the music isn't bad at all. Panther isn't as addictive as Blue Max but as shoot em 'ups go, it belongs to a group that's inherently playable. The satisfaction of rescuing those human survivors makes the whole thing seem worthwhile!

Title:	**PANTHER**
Publisher:	**Mastertronic**
Price:	**£1.99**
Players:	**1**
Format:	**Cassette**

Reviewed by Paul Rixon

THE ACCESSORY SHOP
ISSUE 55

BARGAIN SOFTWARE

Still plenty of software around for your XL/XE and plenty of items in stock in the Accessory Shop. All of the following are brand new and at considerably less than the original or recommended prices. Complete your software collection now before it's too late!

STOP PRESS!

TWO POPULAR ROMS BACK IN STOCK

RIVER RAID - ONLY £3.95

KABOOM - ONLY £2.95

See previous issues for full descriptions of these great games

BACK AGAIN!

US FOOTBALL



American Football is now a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video bowl game of your own in a packed stadium. All the thrills of the gridiron.

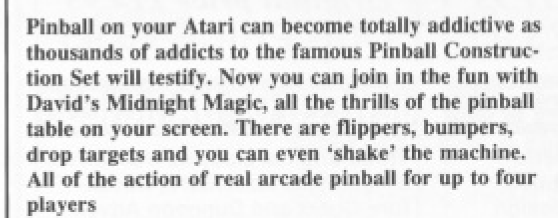
ROM CARTRIDGE

Normally £12.95

OUR PRICE £6.95

DAVID'S MIDNIGHT MAGIC

BACK AGAIN!



Pinball on your Atari can become totally addictive as thousands of addicts to the famous Pinball Construction Set will testify. Now you can join in the fun with David's Midnight Magic, all the thrills of the pinball table on your screen. There are flippers, bumpers, drop targets and you can even 'shake' the machine. All of the action of real arcade pinball for up to four players



Normal price £14.95

OUR PRICE £7.95

ROM CARTRIDGE

BACK AGAIN!

EASTERN FRONT (1941)



The classic war simulation by Chris Crawford that astounded Atari users when it was first released. Based on the real life battle of Operation Barbarossa on the border of Russia you must command the forces through the savage Russian winter to see whether your skills can determine a different outcome from history. Easy to understand, difficult to win but an ideal introduction to computer wargaming. Definitely an Atari classic!

ROM CARTRIDGE

Recommended price £12.95

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ROBOTRON 2084

NEW!

It's the year 2084, and you're the only being left who can defend humanity against the Robotron armies! You've got to move quickly to rescue the defenceless humans and blast fast with your anti-robot laser gun to shatter the oncoming waves of Grunts, Hulks, Brains, Spheroids, Electrodes and mutant Progs. Only you can save the last survivors!



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ROM CARTRIDGE

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KIKSTART

The ultimate off-road motorbike scramble simulator. Guide your rider carefully over the obstacles in this all action simulator for 1 player against the computer or 2 players against each other as well as the clock



180

What can we say? A great darts challenge. Eight opponents, digitised speech, two player option. live joystick control, full matchplay scoring, a sense of humour, superb playability, this one has it all!



SIDEWINDER II

It is 27 years since the final battle of the war with the aliens. 27 years of peace have reigned in the Western Spiral Arm of the Galaxy. All this is about to change. Step aboard your craft and prepare to defend mankind in this all action space blast



ON CUE

Control that cue ball.! A challenging real life simulation which combines Pool and Snooker on the same cassette. An absolute must for both enthusiasts and beginners alike. Greatly addictive.



GHOSTBUSTERS

Has anybody seen a ghost? Matter of fact yes they have! At this very moment hundreds of ghosts are making their way to the infamous spook central. Only you can save the world from a disaster of biblical proportions. So go and show 'em how you do it!



NINJA

Blasts the belt off all other martial arts games! That's all it says on the inlay! Someone sure reckons this is the best punching, kicking, ducking and diving game around



ROCKFORD

The only true arcade version of the classic game Boulderdash. There are four levels on each of five different worlds with four screens on each level. It all adds up to eighty totally different playing screens. INCLUDES FREE GAME - CRYSTAL RAIDER

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These items of software are new to us or are replacements for items previously sold out
Some are in short supply and may not be available again. Get them while you can!

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SILICON DREAMS

Great sci-fi adventure from Level 9. Three superb adventures with graphics - Snowball, Return To Eden and The Worm in Paradise

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JINXTER

An adventure from Magnetic Scrolls, the team that set new standards in adventure design Requires 1050 or XF551 drive

DISK

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JEWELS OF DARKNESS

Three original classics from Level 9 - Colossal Adventure, Adventure Quest and Dungeon Adventure (the solution's in Issue 53!).

DISK

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GAUNTLET

Possibly the most famous role-playing game of all. Explore the dungeons in this original game from Mindscape.

DISK

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LANCELOT

Maybe Level 9's best adventure. Highly researched and well written, set in the times of King Arthur

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ARCHON

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GAMES

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DISK

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PANZER GRENADIER

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DISK

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Regarded by some as the finest chess simulator of all. Nine levels from beginner to master. Ideal to learn with as the manual teaches all the fundamentals of the game

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COLOSSUS CHESS 4

Claims to be the best chess program of all. The writers of Sargon III would disagree, but there is no doub this is a fine chess simulation particularly for advanced players

DISK OR CASSETTE

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WE SUGGEST THAT YOU CHECK AVAILABILITY OF THESE ITEMS BY TELEPHONE

A Further Selection

Here's the list of all the other items still in stock. Many of these program will be familiar but if you want to know more check out the past couple of issues where all of these programs have been more fully described. Some real classics and some great bargains!

GAMES

MOON PATROL
Your beat: Sector Nine, home of the roughest, toughest thugs in the galaxy. Great 3D graphics and good music in this arcade conversion.
ROM *Normally £12.95* **OUR PRICE £6.95**

MISSILE COMMAND
Another of the all-time classic arcade games that has you defending cities from missile attack. For one or two players.
ROM *Normally £14.95* **OUR PRICE £5.95**

ZAXXON
One of the all time classics for the Atari, Zaxxon set new standards with its unique 3 dimensional battlefield and great graphics
DISK *RRP £9.95 disk*
CASS *£9.95 cass* **OUR PRICE £2.99**

HANGMAN
The original computer education game suitable for ages from 8 to adult. Three levels of play with 40 words in each.
CASS **OUR PRICE JUST 99p**

HARDBALL
American League baseball at it's very best. A highly regarded game - check the review in Issue 45 'THE best sports simulation on the Atari'
ROM *Normally £14.95* **OUR PRICE £7.95**

TAIL OF BETA LYRAE
Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music." A great horizontal scroller
CASS **OUR PRICE JUST 99p**

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From Lucasfilm, this top quality split screen game takes place in a games arena of the future. Two-player simultaneous play
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ROM *Normally £14.95* **OUR PRICE £7.95**

STRANGE ODYSSEY
At the galaxy's rim, there are rewards aplenty to be harvested from a long-dead alien civilization. Fabulous graphic adventure
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RESCUE ON FRACTALUS
Ask old hands what was one of the best games ever for the Atari and a good proportion of them will say Rescue on Fractalus. They're right!
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SUPER BREAKOUT
Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Needs paddles.
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LODE RUNNER
Another classic, perhaps the best of all platform games. Includes a unique extra that allows you to create your own levels.
ROM *Normally £14.95* **OUR PRICE £7.95**

ONE ON ONE
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ROM *Normally £14.95* **OUR PRICE £6.95**

GAMES

DESERT FALCON
A version of the classic Blue Max that finds you flying across the desert Indiana Jones style searching the desert sands.
ROM *Normally £14.95* **OUR PRICE £7.95**

CAVERNS OF MARS
Winner of one of the first Atari programming competitions, this was one of the first vertical scrollers and remains much sought after - *LAST FEW WITHOUT BOX BUT WITH FULL ORIGINAL MANUAL -*
DISK **LOW PRICE £4.95**

ZORK 1
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DISK *Originally £29.95* **SUPER PRICE £2.95!**

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ROM *Originally £12.95* **SPECIAL PRICE £2.95**

RIVER RAID
One of the classic scrolling games in which you fight your way up river, bombing and shooting everything insight.
ROM *Originally £14.95* **SPECIAL PRICE £3.95**

MAXWELL'S DEMON
A simple yet challenging puzzle game which will get you totally addicted. In fact two games in one for double the fun
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MR ROBOT & HIS ROBOT FACTORY
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DISK
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APPLICATIONS

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PROOFREADER
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BASIC CARTRIDGE
Some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic.
ROM **OUR PRICE £3.95**

EDUCATION

JUGGLES RAINBOW
A first computer experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition
DISK/CASS **OUR PRICE £5.95**

JUGGLES HOUSE
Another for 3 to 6 year olds teaching the concepts of inside, outside, upper and lower with Juggles' House and Toyshelf.
CASS **OUR PRICE £5.95**

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BOOKS

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A large format book that covers the world of micros in general with some specific Atari sections. The book contains a lot of worthwhile background information on home computing
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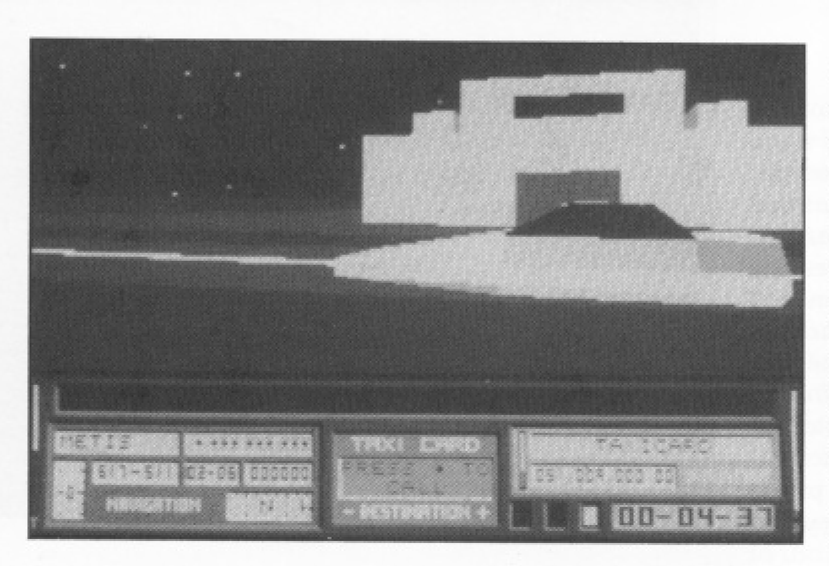
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MERCENARY III - THE DION CONSPIRACY



The original Mercenary was without a doubt a landmark of its time. Based in a world of wire frame 3D reality it introduced a bizarre world where a complicated adventure must be followed through.

After a great many years of waiting (some would say far too many) the follow up, Damocles was released. With a greatly enhanced graphics engine and a clever planetary system controller you could travel throughout the solar system with your robotic aid, Benson, in order to save the world from the Damocles comet. If you succeeded you were considered quite a hero but thanks to dearest Mr. Woakes you were imprisoned in a time warp until the dawn of Mercenary III.

Now that Mercenary III has arrived, you are released with your 50 million credits and a bus pass(?!?). You must move out into the world and interact with numerous characters who will set you off on various missions which will yield certain financial rewards.

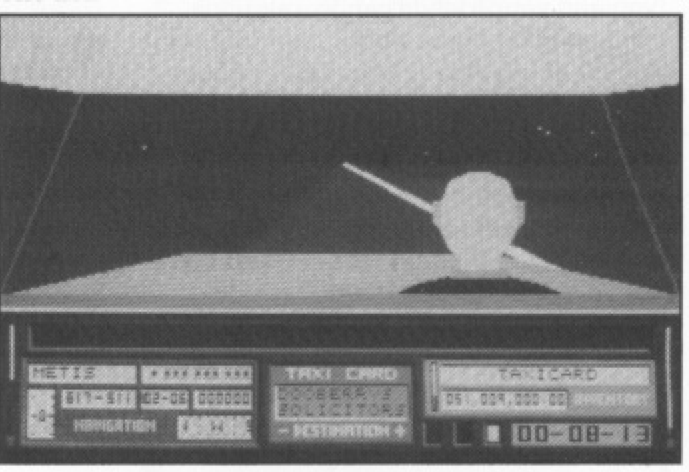
Initially your only mode of transport is to either take the bus (which involves some waiting - what's new?) or to jump in a taxi. It is here that your first encounter with one of the new features of the game will take place. Yes! There are actually other people in Mercenary III. You are no longer alone! There are loads of taxi drivers in the different cities, some are decent fellows, whilst others are decidedly dodgy chaps who won't think twice about taking you half way around the world and charging you a fortune (sounds a bit like London cabs). However, it is essential to use them in order to reach your first destination - the ever helpful PC Bil, the man behind your quest. After a bit of exploration and interplanetary hopping, however, you will soon discover what sort of a chap Bil really is and you'll encounter numerous people who won't think twice about slagging the guy off behind his back.

As far as the Mercenary games go this is without a doubt the most complex, and unlike the previous two there is considerably less emphasis on combat. This time it's much more of an adventure with even more complex puzzles than you will have seen before. The result is something that is considerably more playable and something which seems to present you with a much greater sense of purpose. The ability to interact with other characters on the planets makes the game much 'deeper' than ever before.

Graphically there have been a lot of enhancements over Damocles. The screen update is much faster and all of the 3D objects have been filled in colour to give everything a much more solid appearance. Unfortunately things do tend to slow down a bit when there's a lot on screen, but this is a rare occurrence! Unfortunately the sound hasn't been improved all that much but this is no big deal. I actually quite like the gurgly little noise that Benson makes when he gives you a message!

Overall I was really quite impressed with Mercenary III. The overall style of the series has been retained, but enough enhancements have been made to set this particular title apart form the others. All those of you out there who like 3D adventures that involve exploration, flight, driving and puzzle solving should spend many hours experiencing the delights of the Dion Conspiracy! As before there are numerous solutions to the game so even if you do manage to complete the game it is possible to go back and do it again in a completely different way!

- ***SIGHT AND SOUND*** - *Graphically it is fast and smooth and is a considerable improvement over the previous two Mercenary games. Sonically, not a lot has changed but the usual bleeps and blurps are more than adequate*
- ***GAMEPLAY*** - *What can I say? You either love it or loathe it, but personally I think it's fantastic!*
- ***OVERALL*** - *A superb game that should keep you engrossed for many hours. The scope of the puzzles coupled with the new character interaction make this a tremendously playable game*



Title:	**MERCENARY III - THE DION CONSPIRACY**
Publisher:	**Novagen**
Price:	**£25.99**
Reviewer:	**John Davison jnr**

TWO OF A KIND

F-15 STRIKE EAGLE II a

I recently received two more flight simulators for review, and as they're similar in nature I thought I'd cover them in one article. Both are also rehashes of earlier products.

First up is F-15 Strike Eagle II by Microprose. The original version appeared about 7 years ago on the 8-bit machines, and although it wasn't a particularly good FLIGHT simulator, as a flight COMBAT simulator it was second to none! In fact it's still one of my all time favourites.

The new ST version is supplied on two double sided disks together with a glossy 136 page manual, and maps of the combat areas, which look remarkably similar to those in Microprose's F-19 Stealth Fighter package (reviewed in Issue 47). There's also a useful summary card explaining the keyboard controls and Head Up Display (HUD) components. It runs on 512K ST(E)s and up, and can be controlled via the keyboard, mouse, or joystick.

As usual you start by "logging on" to the pilot roster, as this enables you to track your pilot's progress. You're awarded points for successful missions, and receive medals and promotions when you've collected enough points. Several pilots can be "active" simultaneously, so you and your friends can fly missions competitively if you wish.

SIX SCENARIOS

Next you choose the difficulty level - Rookie, Pilot, Veteran, or Ace - and then the mission scenario. These include Libya, Persian Gulf, Vietnam, Middle East, North Cape, and Central Europe. Following a briefing on primary and secondary targets, you find yourself in the cockpit, with weapons already loaded and navigation computer preset with appropriate waypoints.

As in the original version, F-15 II has a simplified cockpit layout. The instrument panel is taken up mainly by a moving map display; a tactical radar display showing positions of threats and targets and a tracking camera display showing a view of your currently selected target. There's also a fuel gauge, throttle gauge, a few warning indicators, plus counters showing the numbers of Sidewinder, AMRAAM, and Maverick missiles, and flare and chaff dispensers remaining. Unlike the original program, in this version there are no bombs to drop. There's no choice of weapons to load either - you're armed with a preset mix of missiles, plus your cannon.

Most of the traditional flight instrumentation has been replaced by HUD functions. The HUD is projected onto the canopy immediately above the instrument panel, and displays vital flight data such as airspeed, altitude, compass heading, and pitch and roll information. It also indicates current stalling speed, safe landing speed, and climb/descent speed, plus flight path and waypoint navigation indicators. Integrated with all this is your target tracking and weapons delivery system, which help you visually pick out your target and aim and release your missiles. Below the HUD is a strip display which shows decoded radio messages - usually to warn you of enemy aircraft or missiles.

In action F-15 II looked very familiar. This wasn't because I knew its 8-bit predecessor, but because its external scenery presentation seems remarkably similar to F-19 Stealth Fighter! I found it easy to control, if perhaps a little "wooden" in its response, but this makes it easier for beginners. Take offs are relatively easy, but landings require practice, particularly for missions involving recovery to an aircraft carrier!

All the usual views from the cockpit are available - plus external views of your aircraft, from a chase plane, and a "slot" view. There's also a "tactical" view looking past your aircraft towards the current target, and a "reverse tactical" view from the target back towards your aircraft. Finally, "director mode" automatically switches views to show critical actions whenever and wherever they happen - enemy planes scrambling, a SAM site firing at you, target destruction, etc. It's quite entertaining, but not much help when you're in the thick of a dogfight!

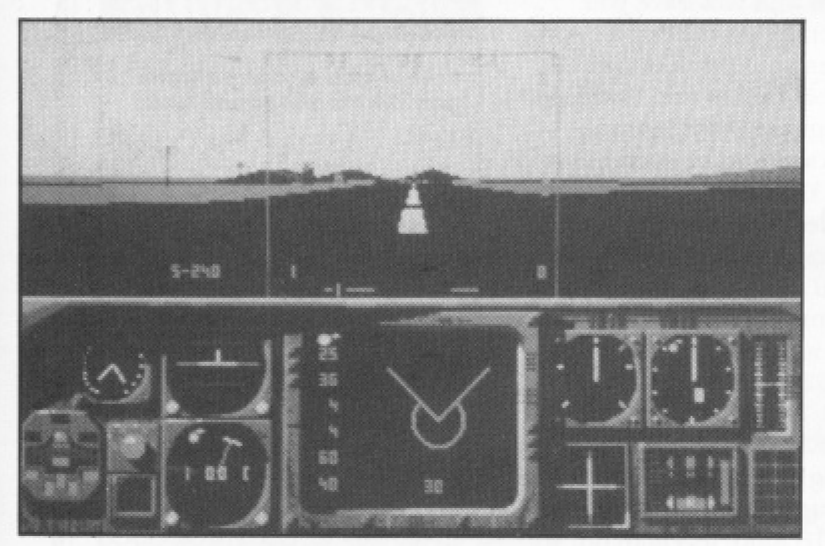
F-19 CLONE?

Overall, the program's graphics are reasonable - virtually identical to F-19 in fact, but I thought the briefing, debriefing, and other non-flying screens a little crude. Sound consists mainly of engine noises and explosions, although there are a couple of bursts of sampled speech over the aircraft radio.

I found F-15 II quite exciting in use, as it has retained many of the features of its predecessor. There are lots of opportunities for dogfighting with cannon and missiles, and for avoiding enemy SAMs, as well as taking out the ground targets required by your mission. To survive you need to pay strict attention to fuel usage, and to avoid enemy radar by flying low, but this requires much concentration because of the turbulent air near the ground. As in the original you can sustain multiple missile and gunfire hits. Each hit usually causes damage to the aircraft, so it gets harder to control, eventually reaching the point where you have to eject.

Overall I'd class F-15 II as a good beginner's flight combat simulator, but the experienced user might find it a little disappointing. This is especially true if you already own Microprose's F-19 Stealth Fighter, as the two are very similar.

II and MIG-29M SUPERFULCRUM



MIG-29M SUPERFULCRUM

I reviewed the original version of MiG-29 Fulcrum less than a year ago (see Issue 50), and already Domark have launched this uprated version. From all the hype I expected it to be a significant improvement over the original, which I found a little disappointing.

It's packaged in a large box, which contains one double sided disk; a 110 page spiral bound manual (half of which is in Italian!); a campaign chart/reference guide showing your area of operation and summary of the program's controls; and a glossy 46 page book describing over 40 of the world's top military jets.

The manual is physically larger than its predecessor's, and contains some new background information about the development of the MiG-29 however the rest of it looks identical to the older version, including a reference to "training mode", which seems to have been left out of the program this time around.

NEW SCENARIO

The most obvious difference is the change of scenario. The original program had five different missions covering the Middle East, China, and what was the USSR. This one has a single campaign based somewhere in South America, where a military coup has put a large area under rebel control. UN Resolution 828 states that the rebels must surrender to the legitimate government or be thrown out by a combined Soviet/USA force, which includes American F-18 fighters and the new Soviet MiG-29M. You're there to fly the latter.

After the neat animated bootup screen you "log in" to the pilot roster and choose whether to arm the aircraft for air-to-ground combat, air-to-air combat, or for a mix of the two. Next you're given your objectives, which are to break the rebel supply lines; conquer several enemy airbases; attack strategic installations and finally to destroy the rebel headquarters. This involves taking out bridges, depots, trucks, hangars, SAM sites, communications centres, and tangling with defending F-16's and Huey Cobra helicopters. Damage to supply lines can be repaired by the enemy, unless you carefully plan your missions to take out the appropriate supply depots at the right time. You can set your own navigation waypoints to facilitate this.

Domark claim improved graphics in this new version but this isn't immediately evident. True, there's a bit more ground detail in the form of fields, mountains, and other features, but including these seems to have slowed the frame rate down a little. You can reduce the detail level to speed things up a bit though. Also, the instrument panel has been redesigned, but the instruments still retain that simplistic look of the original version - i.e. the instrument dials are mostly uncalibrated. However, you get most of the flight data from the HUD, which is very similar to F-15 II's but slightly less cluttered.

Virtually all the original MiG-29 features are here. It retains the famous helmet mounted missile aiming system, with all round viewing in 45 degree increments so you can aim a missile simply by looking at the target. There are outside views of the aircraft; views from your home base control tower; from the enemy viewpoint; and that "missile's eye view" of course. It uses the same armaments of cannon, unguided rockets, and Aphid and Kerry guided missiles too.

DYNAMIC FEEL

Control is via keyboard, mouse or joystick (with sensitivity control for the latter). Aircraft handling is as good as its predecessor's, having a very "live" dynamic feel to it - much better than the feel of F-15 II, and almost as good as ProFlight or Flight Simulator II. And that's praise indeed!

Overall, MiG-29M struck me as being more more like a new "mission disk" than a complete new product. If you already have the original version then it's not worth buying at it's current price. Even if you don't have the original, I still think it's a little expensive for what it is. I found it quite enjoyable though, but like F15 II I consider it a beginner's flight simulator, rather than one for the expert flightsim fan.

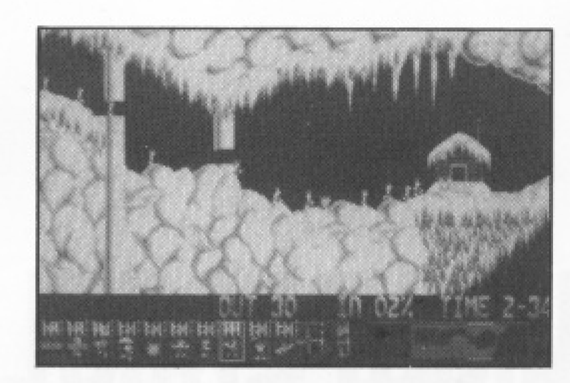
Choosing between the two packages is difficult, as each has its own strengths. F-15 II has a wider range of missions and better combat aspects, and is more gamelike. MiG-29M is superior in the area of pure flight simulation, and needs more thought to get the best from it. My choice would be MiG-29M, but your requirements might be different. If you have to choose, try to see them both in action before making up your mind.

F-15 STRIKE EAGLE II
Microprose £35.99

MIG-29M SUPERFULCRUM
Domark £29.99

Reviewed by John S Davison

OH NO! MORE LEMMINGS



They're back! Those crazy, suicidal Lemmings are ready to march across your screen again, bringing you more tantalising frustration. The gameplay is identical to the original Lemmings, but those devious people at Psygnosis have added lots of new graphics, music, traps and puzzles.

Just in case you never saw the original: tiny but perfectly formed lemmings march single-mindedly across the landscape, dying by the hundreds as they come to cliff edges, vats of acids, lemming-crushers and countless other deadly traps. You must use the mouse to select from a row of icons and instruct particular lemmings to build bridges, smash through walls, block the way, etc. in order to clear a path to the exit on each level, while keeping as many lemmings as possible alive.

The new game has over a hundred new levels. There are twenty levels each of Tame, Crazy, Wild, Wicked and Havoc (at least I assume there are twenty Havoc - I am only on level 84 at the moment!), plus another twenty(?) two-player levels. Sadly they have still not come up with an easy way to use two mice on an ST so the second player is still handicapped by having to use the keyboard and the joystick.

As before the game starts off very easily with the Tame levels - anyone should be able to complete these with little difficulty as the number of lemmings you have to save is set very low. Then suddenly the game jumps a level of magnitude in difficulty when you get to the Crazy levels. Some of the new puzzles are superb and will have you scratching your head for some time as you check out all the possible routes and find most of them are red herrings. There seem to be even more levels than before which look completely impossible when you first see them, especially as you often have to save ALL the lemmings! The only variation I have seen so far is on level 62 (Wicked 2) which is called "INTRODUCING SUPERLEMMING!" - he moves at double speed! Sadly he hasn't yet reappeared, but I have at least 16 more levels to do, so maybe he will be back.

If you have the original Lemmings you can save £6 by buying the data disk version.

FACTS

Title:	**OH NO! MORE LEMMINGS**
Publisher:	**Psygnosis/DMA**
Price:	**£25.99**
Reviewer:	**John Sweeney**

SIGHT & SOUND

Brilliant - lots of lovely effects, gory deaths and happy tunes!

GAMEPLAY

Just as addictive as the original, with plenty of challenging levels for the most hardened Lemmings-fiends!

VERDICT

If you enjoyed the original you will love this. If you haven't tried any Lemmings yet then you are missing a treat

LOTUS ESPRIT TURBO CHALLENGE 2



FACTS

Title:	**LOTUS ESPRIT TURBO CHALLENGE 2**
Publisher:	**Gremlin Graphics**
Price:	**£25.99**
Reviewer:	**Damon Howarth**

SIGHT & SOUND

Pretty pictures and average sonics, nothing to grab the imagination though

GAMEPLAY

Hardly addictive, although a smooth scrolling road game, multi-user a nice touch, controls responsive

VERDICT

A barely adequate race game that is trading on its predecessor, possibly good for clubs otherwise fairly run of the mill

This is the successor to the somewhat successful Turbo Challenge which proved to be fairly innovative in its day. Number two does not reach the same heights of excitement and innovation however it does have some extremely pleasant additions which make it an interesting investment for clubs with avid car racing game members. The graphic qualities are strong and actually live up to some of the screen shots on the box cover and some of the effects give the flavour of the car world, although others are a little short of that which today's gamers expect.

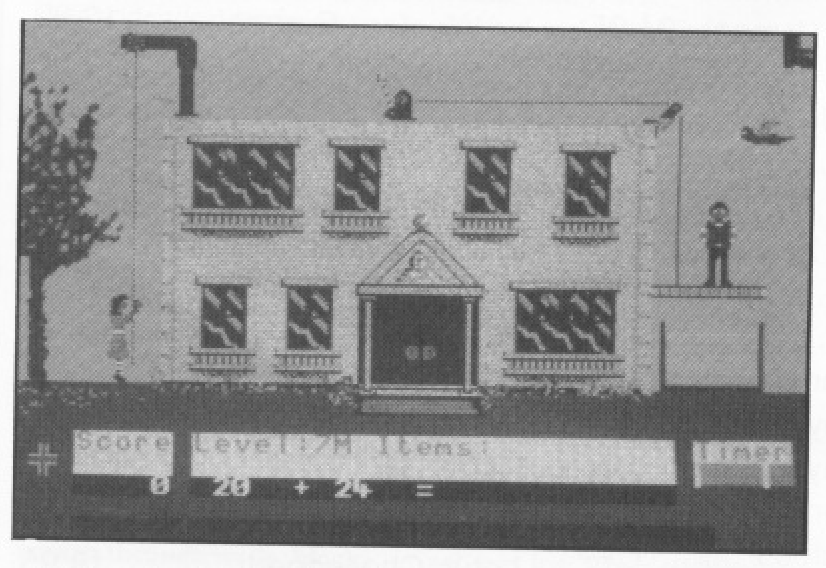
The big news for the club players is that the game provides the means to interconnect up to four machines to produce an interlinked race game. A pleasant touch, possibly not for the ordinary home user's but good in clubs.

Graphically the game is strong, and coming as it does on just one disk I can only surmise that the lengthy loading time is due to a great deal of de-compression of data as it loads into the machine. Sadly these loads take place on a regular basis so there is a great deal of player time spent twiddling thumbs awaiting the next level or screen. The controls are extremely simple and of the options available the alternate joystick is both recommended by the game and by this reviewer. These controls even allow a measure of automation since an auto fire option even allows for full acceleration with no effort.

I found that this game became less challenging with play, and even the various weather and lighting conditions made little difference to the gameplay. The main tactic seemed to be drive flat out turning left and right or dodging kamikaze opponents and road users often. Even the sparsity of instructions in the accompanying booklet seemed to underline the rather slight game play element.

I was not overly impressed and, although it is better than Cisco Heat, it just does not have any real compulsion in the play. Indeed there were several occasions when the loading felt to be dragging on forever and I felt that the reset button was a better option than the fire button.

WHO'S HENRIE



Scetlander are relatively new to the ST scene, but they've been around since 1986 producing educational software for non-Atari computers. They've now begun releasing products for the ST, so over the next couple of issues I'll be looking at some of their offerings.

The first two packages I've received are designed to help children improve their arithmetic and language skills - with the National Curriculum in mind, of course. Both use the same two theme characters, namely Henrietta and Hopeless Henry, who always seem to be in trouble. You have to help them out by solving arithmetic and word based problems.

HURRAY FOR HENRIETTA

This package is aimed at 5-12 year olds. It contains one single sided disk, a 16 page instruction booklet, and a lapel badge. It refused to run on my 1MB STE (black mark, Scetlander!), but worked perfectly on my old 512K STM. It's controlled via mouse and keyboard.

It uses what must be the daftest scenario of all time, but the kids will probably find it hilarious! Henrietta and Hopeless Henry are about to get married, but their wedding plans have been thwarted by John the Parrot. First he stole Henry's wedding clothes and now he has kidnapped Henry. What's more, if Henry isn't rescued in time John will cover him with cold custard! To save him from this terrible fate you must help Henrietta to rescue him (plus his missing hat, coat, trousers, and boots).

It's based around four screens, in each of which Henry is seen dozing around blissfully unaware he's in mortal danger of immersion in custard! You have to help Henrietta prevent this by correctly answering eight arithmetic problems within a set time limit. Success gains you one of Henry's missing items of clothing - collect all four to launch the zany couple into matrimony.

Incorrect answers waste time, reducing your chance of saving Henry before the timer expires. After three incorrect attempts at a question the program displays the correct answer and moves on to the next problem. Exceed the time limit and Henry gets a close encounter of the yellow kind, and you have to restart with new problems.

DEATH BY CUSTARD!

In the first screen Henry is standing on a platform suspended over a tank of custard. Henrietta is frantically shinning up a rope, helped by your answers, to get to the mechanism which will hoist him to safety. When time's up John the Parrot severs the rope holding the platform, causing Henry's rapid descent into the you-know-what.

The second screen shows Henry standing on a sandbank in a river, with a large tank of custard hovering over him. John is chugging towards him in a motorboat and will get there just as the time expires. Meanwhile Henrietta frantically heaves on the oars of her rowing boat with the aim of beating him to it, propelled by your correct answers. It's custard for Henry if the parrot gets there first!

The third screen is probably the craziest. John the parrot is potting snooker balls into a weird looking machine, and eventually one of the balls trips a lever causing a pair of scissors to cut the rope holding a large bag of custard above Henry's head. Meanwhile, Henrietta is having to leap a flight of hurdles to reach the scissors first, boosted by your correct answers.

In the final screen John is swinging a demolition crane at a wall on which Henry is standing, under which is yet another tank of custard. Henrietta is desperately trying to haul a platform up to Henry so he can walk across it to safety. When time runs out the wall is demolished and Henry tastes custard again.

RANDOM PROBLEMS

The problems are randomly generated each time the program is run, providing an endless supply of different questions. A wide range of addition, subtraction, multiplication, and division problems are possible, and at the highest levels these may require the use of pencil and worksheet, or even a calculator if appropriate. Once you've completed four screens the program increases the difficulty level and restarts from the first screen. There are eight such incremental levels, but overall difficulty can be set to low/medium/high from the "parent/teacher screen".

You may also alter the time limit, select problems using any one or all four arithmetic functions, toggle the music on/off, toggle result recording on/off, and save the new settings as defaults. Result recording keeps track of your answers on disk, from where they can be later reviewed onscreen or printed out. Up to ten sets of results can be stored, and there's also a high score table for the ten highest scores.

To hold a child's attention educational programs need to be both challenging and entertaining, the latter usually achieved by exploiting the computer's graphics and sound capabilities. In this case the graphics are fairly simple, but there is some neat animation in places. On the sound side there are a couple of good speech samples (especially Henry's cry as he disappears into the custard!), but music and effects are fairly unexcit-

ETTA?

JOHN S DAVISON IN PURSUIT OF GOOD EDUCATION

ing soundchip generated sounds.

Pete, my ten year old son, initially wasn't very impressed by the program. He thought the sound and graphics fairly average and the problems didn't seem challenging enough for him. However, his opinion improved somewhat when I reduced the time limit and set the overall difficulty level to "high"! The program then did a decent job of providing arithmetic practice in a challenging and entertaining way.

HENRIETTA'S BOOK OF SPELLS

This one is aimed at 7-14 year olds. It's supplied on one double sided disk, accompanied by a 12 page instruction booklet, a "quick-start" summary card, and a lapel badge. It runs on 512K ST(E)'s and above, and is operated via mouse and keyboard.

In this scenario Henry has unwittingly upset Morgana the Morbid, the rather nasty witch of Castle Spellalot. She retaliated by turning him into a frog, and to rescue him Henrietta has to find a number of magic letters hidden in the castle, from which she can form the magic word which reverses Morgana's spell.

To help her find each letter you have to correctly answer a number of questions involving spelling and language skills. There are five separate exercise screens, called Flash, Complete, Crack-It, Hang-Up, and Jumbles, and all take place in Castle Spellalot. On each screen Henrietta has to reach a chest containing the magic letter, achieved by various physical activities assisted by your correct answers. Unfortunately Morgana is trying to do the same, aided and abetted by Cedric the Skeleton! The program times your performance, and this is used as an overall score.

A correctly answered question results in Henrietta getting one step nearer the chest, with eight correct answers needed to reach it. Three incorrect answers to the same question results in Morgana getting THREE steps nearer the chest. If you're really stuck you can request help, when a hint will be given, but this adds a time penalty to your score. If Morgana reaches the chest first you have to restart the exercise - using the same set of questions, which could get a bit boring.

WORD EXERCISES

The five exercises are:

FLASH - a word is displayed for a few seconds for you to memorise. When it disappears you have to key it in - with correct spelling!

COMPLETE - displays a word minus some of its letters. Identify the word and key in the missing letters to complete it.

CRACK-IT - is about codebreaking. Work out the coding method used from an example shown, then use it to decode the displayed coded word.

HANG-UP - yes, it's the old Hangman game. Discover the hidden word before Cedric hangs the man on the gallows.

JUMBLES - an anagram game. Rearrange the letters to form the original word.

After successfully completing the exercises you have five magic letters, from which you form a magic word. Get it right and Henry regains his original identity.

CUSTOMISATION

There's a "parent/teacher screen" for customising the program to specific requirements. You can toggle the sound on/off; set the overall difficulty to low/medium/high; set the help key time penalty; and choose to complete all five exercises or any one of them. You can also request result recording, as in Hooray for Henrietta. The program's word lists (containing about 2500 words) can be modified as required, and you could use this facility to insert foreign words to allow foreign language vocabulary practice. Word lengths from five to nine letters can be selected, the latter producing some very challenging problems! Again, the new settings can be saved away as defaults.

The idea behind this program is excellent, but I was disappointed it didn't exploit the ST's abilities more. It uses uninspired sound effects, crude single channel music, unexciting graphics and animation, and is somewhat lacking in gameplay interest. Once again my son Pete wasn't impressed, and wondered why the authors couldn't make it as entertaining as the Fun School programs reviewed in the last issue. However, on the positive side the exercises themselves are quite good, being both varied and challenging. Also the program is easy to use (although sometimes slow in keyboard response); is flexible enough to accommodate children of wide ranging ages and abilities; and the progress tracking feature is very useful. On balance I liked it.

In summary, both these Scetlander products meet their educational objectives quite well, although to fully exploit them you must remember to change the program defaults to match each child's abilities. It's obvious really, but an easy point to miss. Overall they're not bad programs, but they lose out on the sound and graphics front, giving the feeling they're a little overpriced for what they are.

HOORAY FOR HENRIETTA
HENRIETTA'S BOOK OF SPELLS

Scetlander Software
£24.99 each

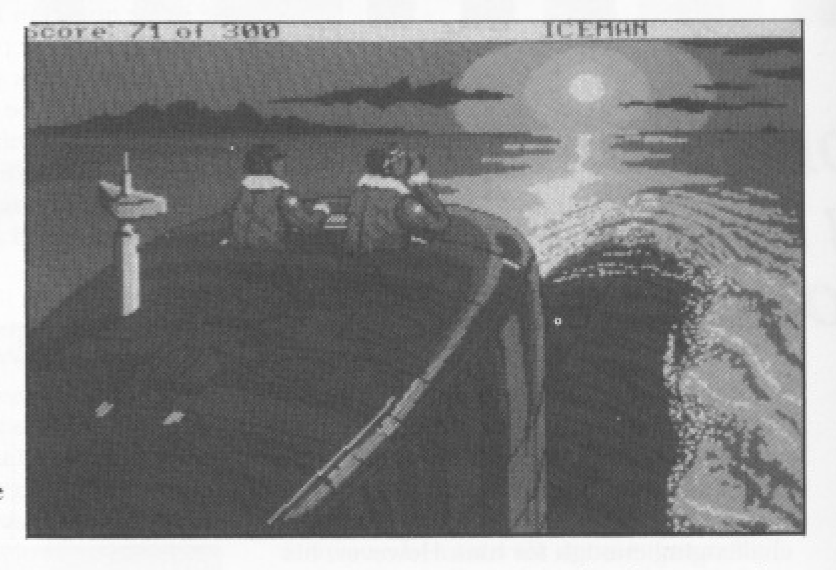
Reviewed by John S Davison

THE COLONEL'S BEQUEST & CODENAME: ICEMAN

Sierra, sadly, no longer seem to be supporting the ST. Last time I spoke to them they had no further releases planned for the ST, and have not had any for some time now. So I asked them to send me review copies of a couple of their games from last year (1990). Unfortunately the two games they sent me must be two of the worst they have ever produced!

Sierra games, as always, look and sound pretty good, with you and the people you meet nicely animated, but they still have made very little progress with programming the games so that you can type commands in which can be easily understood. Too many times I knew exactly what to do next but had to try four or five different sentences before I was understood. The other major problem is the speed. Maybe they are playable on a 25MHz 386 PC with 11ms disk access time. But on an ST they are just TOO slow to be enjoyable. In both games I was driven to getting a book out to read while I waited for the responses. The Colonel's Bequest is by far the worse of the two: 30 to 40 seconds to move from room to room (sometimes over a minute if it was loading music - even if you have the music turned off!), 3 seconds to acknowledge that you have clicked on an object, 18 seconds to walk across a room - very tedious!

Although Codename: Iceman is a little faster it has some very slow sequences. For example there is a trivial dice game you have to play: in real life you can play each round of the game in around 30 seconds, incredibly slow animation means that it takes over 5 minutes on the computer! There are now many excellent examples of superb graphics adventures with reasonable responses - Monkey Island, Elvira and Cadaver to name but a few - why can't Sierra do it?



All that aside though, if you are prepared to accept that the games run a "little" slowly and you don't mind guessing what you have to type in next, then are the games any good?

In THE COLONEL'S BEQUEST the aged Colonel has gathered ten of his greedy relatives and servants together in an isolated mansion and told them that his money will be split between anyone who lives longer than him. Basically it is a very similar plot to Agatha Christie's Ten Little Niggers, but without the twists! It looks like someone is killing everyone off so that they can inherit all the money, and in fact someone is killing everyone off so that they can inherit all the money!

You are not expected to find, arrest or stop the killer in any way. You just have to wander around the mansion and gardens finding lots of clues. The time jumps by quarter of an hour when you enter certain rooms (except at 10:45 pm when you will get permanently stuck unless you manage to find Ethel who is wandering drunkenly around the garden!). To successfully complete the game you only need to wander around finding these trigger rooms and perform three or four correct actions in the last half hour. THEN you will be told how many clues you found and be given a score.

You can't actually DO anything with any of the clues so it all seems a little pointless. You also get extra points for finding two treasures and reaching the attic early. Unfortunately there are "bugs" in all three areas which will mean you are extremely unlikely to succeed. For example when you stand in the elevator and say UP it says "The handle is stuck". EXAMINE HANDLE tells you that you don't have it! To progress you have to guess that the HANDLE can only be referred to as a LEVER!

CODENAME: ICEMAN is full of similar illogicalities and irrelevancies. You wander along the beach and find a volleyball net. Nothing happens. You try again without your shirt on - now there will be a game going on and you get to practice your Cardiopulmonary Resuscitation when a girl nearly drowns. You have to guess which words it wants you to type in from the instructions in the manual and you get 8 points. What does this have to do with your mission to save the world from nuclear holocaust? Absolutely nothing!

Once you have worked out how to leave the beach area you get to pilot a submarine using a fairly primitive simulator and an even more primitive course plotting computer to reach the Middle East and rescue a kidnapped US Ambassador.

If you do decide to persevere with either of these games then you would probably like to know that Sierra have a help line on 0734- 304004 - no charge except for the actual phone call - but you will need a touch-tone phone on a digital exchange.

Title:	THE COLONEL'S BEQUEST/ CODENAME: ICEMAN
Publisher:	Sierra
Price:	£24.95/£24.95
Reviewer:	John Sweeney

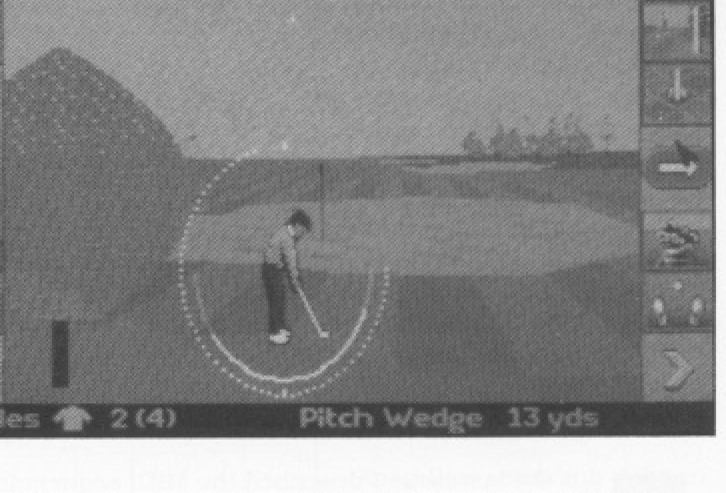
- ***SIGHT & SOUND*** - *Up to Sierra's usual excellent standard, but beginning to look a little dated*
- ***GAMEPLAY*** - *Slow, illogical*
- ***VERDICT*** - *If you want a good Sierra game buy King's Quest III*

MICROPROSE GOLF

I love golf games, so couldn't wait to get to grips with this major new release from Microprose. Its immaculate packaging contains three double sided disks (program disk plus two course disks); a 112 page instruction manual (with separate ST supplement); three cards showing the layout and details of each hole of the six courses simulated; and a card showing distances you could expect to whack the ball with each club. The program runs OK in 512K, and although keyboard and joystick control is possible, a mouse is preferable.

Up to four players can take part, and each may be computer or human controlled. Each player can be designated a novice or have a handicap allocated; and may be right or left handed. As a left hander myself I was pleased to see this feature! It's possible to set the style of play for a computer opponent, you can alter such things as his power level, putting ability, aggression level, and other characteristics. You can then choose the type of competition you wish to play from the eleven different ones supported, using strokeplay or matchplay rules as appropriate. Finally, you choose the course to play from the six provided. It's not clear whether these are real life courses or just inventions of the programmer.

Each hole begins with a 3-D isometric view, showing all the main obstacles, etc. Also shown is the planned trajectory of the ball, if struck CORRECTLY with the current club and with no external factors affecting it (such as wind velocity). You can alter the trajectory with the mouse to aim the shot directionally, but the power of the shot is decided later. You can also measure distance from the ball to obstacles, length of shot, etc. on this screen. Other possible changes include the club you're using, the height and position of your tee, and even your stance and feet positioning!



Once at the tee you see a rear view of the player - correctly oriented for left or right handed - with a view down the fairway beyond! Drawn around him are the two circular arcs of the "swingometer" (no, nothing to do with General Elections!). This is used to gauge the power of his shot (backswing) and the timing of contact with the ball (downswing). The former governs the distance the ball flies while the latter controls the amount of "hook" or "slice" the ball receives, which determines its deviation from straight flight. Mastery of the swingometer is essential for doing well at this game - it depends on split second timing of mouse clicks used to make the shot.

Now for the spectacular bit! After hitting the ball it flies off down the fairway, and the view tracks along with it, as if seen from a TV camera. In fact there are five different camera views available, offering various selections of tracking and panning shots - some of them involving switching between two cameras. The effect is stunning - just like you see in TV golf tournaments. The realism is heightened by the excellence of the scenery graphics. They're cleverly drawn and shaded to show all the humps, bumps, hills, and valleys you'd expect on a real golf course. There are also plenty of hazards in the form of trees, bushes, ditches, streams, lakes, and bunkers of course.

Sampled sounds are used for added realism. It's all here, the swish of the club, the crack as it hits the ball, the thud as the ball hits the sand in the bunker, or the splash as you lose it in the lake, and finally that satisfying rattle as it drops into the cup!

When you reach the green you have to "read" it for slope and speed - its definitely NOT just a case of hitting the ball straight towards the hole, as some of the greens are anything but flat! As in real golf, putting is an art in itself and it takes some skill to finally hole the ball. After completing each hole you see your scorecard, allowing you to track how well (or badly!) you're doing. Do well and your handicap improves, opening up more of the program's options to you, such as Head-to-Head and Tournament play.

It has many other useful features, such as action replay; all sorts of disk save facilities, including strokes (to prove you really did get that hole-in-one!), player profiles, and games; driving range and putting green practice facilities; and much, much more.

Microprose have a real winner here, and it really deserves the title of golf SIMULATOR rather than golf game. In fact, it's so good it could probably be used for teaching the concepts of golf to beginners in the real life sport. If you enjoy golf, you must buy this program. If not, buy it anyway and you'll soon become addicted!

Buckland Heath
les
Number of Rounds: 25
Course Par: 72
Best Score: -10
Latest Score: -4
Average Score: +1

COURSE STATS
Eagles: 6
Birdies: 99
Pars: 229
Bogeys: 116
Av. Score: 4.0
Av. Putts: 1.8

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Title:	**MICROPROSE GOLF**
Publisher:	**Microprose**
Price:	**£34.99**
Reviewer:	**John S Davison**

- ***SIGHT AND SOUND*** *- superb graphics, good sound*
- ***GAMEPLAY*** *- excellent, once you've mastered that swingometer*
- ***VERDICT*** *- the best golf game on the ST by far!*

MAKING MUSIC WITH YOUR ATARI



NOTATOR
THE SCORE FACILITIES

John S Davison's regular guide to music on your ST

In the last issue I described the MIDI sequencing facilities offered by C-Lab's fabulous Notator package. This time I want to look at its other major feature - score printing.

For me Notator's greatest asset is that its sequencing and score handling facilities are fully integrated - you don't need to mess about transferring files from sequencer to scoring program as with some products now on the market. Once you've recorded something with the sequencer it's immediately visible in standard music notation form. It can then be viewed, edited, and printed either in isolation as a single track or in "full score" form along with previously recorded tracks. And again, because of the tight integration, any changes made graphically to the score are immediately reflected back in the MIDI data held on the sequencer tracks.

The simplest way of using the score editor is for making minor corrections to music you've recorded in realtime from a MIDI keyboard. A click on the sequencer screen's edit button brings up the score editing screen, showing the track you're working on or the full score (multiple tracks/multiple staves) if you prefer. Obviously, it won't all fit onto one screen so two dimensional scrolling is employed. Horizontal scrolling is used to view later parts of a track, and vertical scrolling to view any tracks/staves that overflow off the bottom of the screen.

To get more onto a screen you can request a miniaturised notation display. A screenful of music even at normal size contains a great deal of detail, one reason why Notator now only supports a high resolution monochrome monitor - it's much easier on the eyes!

Graphical note editing is achieved by mouse selecting a single note or group of notes and applying an editing action to them. Notes can be moved in time or pitch; note duration changed; notes copied elsewhere, across staves if necessary; deleted; or new notes inserted where required. Symbols for new notes, rests, etc., are obtained from two "partboxes". A small, permanently visible partbox contains the most commonly used score symbols, while a second, pop-up partbox contains the remainder. To use, click on a symbol to select it; move the mouse pointer to the required position, then click and hold the right mouse button. The selected symbol will fly from partbox to pointer, and can then be accurately positioned using the mouse. Selecting a symbol from the pop-up partbox also automatically transfers it to the small partbox, so you can easily reuse it from there if required.

SCORE PRINTING

But Notator isn't just about score editing as a means of correcting your sequenced tracks. Its facilities extend far into the music "desk top publishing" area. There's no need to record via the realtime sequencer either - you can input the music directly via the score editor, so you can still create professional looking printed scores even if you can't play a MIDI keyboard. Because of the integration, creating a score automatically creates a sequence anyway, so you can also PLAY your scores via MIDI to hear what your music sounds like as you write it! This is a godsend to any composer or arranger, and a fantastic aid in music education.

Imagine you want to produce a song arrangement for a small band, including say a piano, bass, drums, guitar, saxophone, and a singer. You need a full musical score for the band's musical director, plus individual parts for each instrument, and finally the singer's part. Doing this by hand in the traditional way with pen and manuscript paper is a real pain, but with Notator the task becomes much easier and quicker.

The first step is to set up six tracks, one for each of the parts. Each part requires one stave, except the piano which uses the normal bass/treble twin staves. You can then set the required clef, time, and key signatures for each stave, and begin entering the notes. The quickest method of note entry is to play them into each track in realtime from a MIDI keyboard via Notator's sequencer. If your keyboard skills aren't up to this you can use steptime entry, i.e. input the notes one by one. You have the choice of "MIDI step input" of single notes or chords directly from your MIDI keyboard. Or if preferred, you could use the score editor for input as described earlier.



As each section of music is entered you can check how it sounds via MIDI. If you're using a multitimbral synthesiser you can play each track with it's appropriate sound patch. The only problem area is the singer's track, but you can always substitute another instrument for this, or perhaps even sing the part yourself! If you have a multitrack tape recorder (especially a Fostex model) and C-Lab's Unitor accessory you could record an audio track of yourself singing the part, and run this locked in sync with the sequencer tracks, as described in the last issue.

You can choose from bar lines of various styles (with repeat marks if required), and first time/second time/etc. symbols can be customised to span the required number of bars. Chord symbols can be inserted as text and/or guitar tablature, the latter allowing you to set the finger spots and barre positions wherever you want.

A wide range of note head duration symbols is possible, from semibreve (whole note) down to hemidemisemiquaver (sixtyfourth notes). There are also dotted and triplet versions. Tuplets of up to 15 notes can be handled too, and you can even insert miniature cue notes and grace notes where required!



As well as the standard note heads there are 14 other styles, useful for scoring drum tracks. Notator also has a drum mapping feature which allows you to allocate note head styles to specific drum types and to control where they're displayed on the stave.

You can treat the singer's part exactly as an instrumental part, but the purist may wish to use Notator's "vocal" mode. This doesn't use note beaming - each note is shown individually, detached from its neighbours. This helps when you want to print the song's lyrics along with the music. Notator permits two types of text to be inserted into the score. "Normal" text is used for titles, credits, comments, etc. and can be positioned anywhere on a page. Lyric text is positioned under the notes in a chosen stave, and Notator auto-centres each syllable under its note, and even adjusts note spacing to suit the text - an incredible timesaver! Up to 16 different GDOS fonts may be used, assuming your ST's memory is big enough!

The basic notes are only one aspect of printed music. It also needs instructions to help the performer deliver it as the composer intended. This mainly covers guidance on tempo, dynamics, and playing technique and involves placing various symbols and text at appropriate points in the score. Notator has just about every symbol you can think of for this. It has dynamics (ppp through to fff); pedal on/off; various trills and other ornaments; DC, DS, and their related marker symbols; plus individual note modifiers such as staccato, accent, pause, etc.

The shape of many of these symbols can be easily varied using the mouse. For instance slurs (phrase markings) can be stretched to the required length and be drawn bowing upwards or downwards with whatever degree of curve required. Similarly, crescendo and diminuendo "hairpin" symbols can be similarly stretched, and the angle between the jaws made as wide or as narrow as necessary. The vertical zigzag symbol for arpeggio/broken chord can also be stretched to cover any size chord.

THE VISUAL ASPECT

As well as sounding right an arrangement also has to "look right" on the printed page. Needless to say Notator has facilities for laying out the score in a visually pleasing manner. For instance you can control the distance between notes; distance between staves; number of bars per line; thickness of slurs marks; size and style of text and lyrics; and so on. Page layout can be previewed onscreen before printing, although this isn't always 100% accurate - you sometimes need to fine tune the layout by eye after seeing the first draft printout.

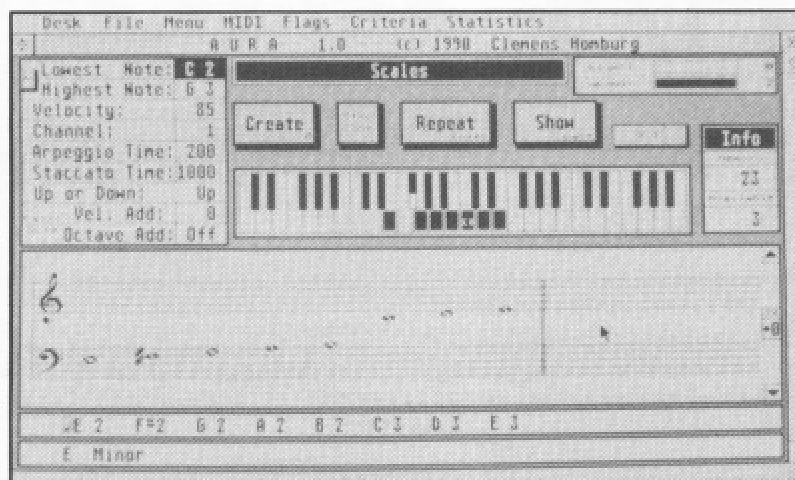
Drivers are provided for virtually every printer imaginable, including 9-pin, 24-pin, laser, and bubble-jet models. There's even a driver editing feature for building your own if necessary. The only thing missing is a Postscript driver. Printout quality is superb, even on a 9-pin printer like my old Star SG10. I did find the staves printed slightly undersize using this model, although the output was perfectly usable. I also tried it with an IBM 4019 laser printer, which produced truly magnificent results of the correct size! You can also dump the score to disk as an .IMG file and export it to a separate desk top publishing program, opening up further editing and printing possibilities.

Notator makes printing of our band arrangement dead easy. Any transposing instruments (like the Eb alto saxophone) are easily handled by asking Notator to transpose the part into the required key. Then you can print the full score or any selected part individually, or to print all parts in one go. Notator automatically extracts, formats, and prints each part onto separate sheets of paper, again an unbelievable timesaver over doing it manually.

Notator has knocked me breathless! I'm lost for words of praise - in fact no words can really do it justice. In my current techno-stunned state the best compliment I can think of is that it's a truly PROFESSIONAL package - and its incredible features could change your whole musical way of life. My big problem now is how to tell my wife I want to spend £550 on my own copy, as Sound Technology (the UK distributors) want the review copy back! Any ideas gratefully accepted!

EXPERIENCING A NEW AURA

MIDI opens some interesting possibilities in the area of music education, so I'm surprised there isn't much software which really exploits it yet. C-Lab's MIDIA package reviewed in the last issue doesn't really count as it's concerned mainly with MIDI technicalities rather than pure musical topics. C-Lab haven't forgotten the musical side though, as they've also launched Aura, which really does focus on music rather than technology.



Aura is billed as an "aural training" program, helping the music student with what some consider the least attractive part of music education, i.e. aural recognition of intervals, scales, chords, rhythms, and melody lines. Working on these can be a strain on the teacher as well as the student, so any help in this area is welcome! Aura is potentially a great help. It runs on any ST(E), but does require a high-resolution monitor. The package includes one double sided disk and a high quality instruction manual. Ideally you also need a MIDI keyboard synthesiser to be able to hear the exercises and play in the answers, but you can manage with just a MIDI expander module if necessary.

TAILORED EXERCISES

The exercises can be tailored to your requirements, with options to set MIDI velocity and channel used; the pitch range of notes used; tempo at which exercises play; note lengths used; and the direction of play (e.g. ascending or descending scales). Overall difficulty level can also be set - for instance, you can restrict the type of interval included in an exercise; or with chord exercises you can choose from simple, average, difficult, consonant, or dissonant chords; and from classical, pop, or jazz styles.

LISTEN AND RESPOND

Aura then presents you with exercises on the chosen topic. They play via MIDI, producing sounds from the attached MIDI sound source. You listen to an exercise then respond in one of several ways. You can either click on the correct answer from the text list displayed onscreen; or you can click on the appropriate notes of the onscreen piano keyboard; or you can play the answer in directly from the MIDI keyboard.

For interval exercises Aura plays two notes (simultaneously or in succession), and you have to name the interval. With chords, Aura plays the notes together or arpeggiated and again you identify the chord by playing it yourself or selecting the correct answer from a list. Also, you can turn the tables on Aura by asking it to analyse and identify any chord YOU present IT with - a very useful feature. The scales topic doesn't just cover the usual major, minor, and chromatic scales - it also includes blues, pentatonic, and wholetone scales, and all those quaintly named modes such as dorian, phrigian, locrian, etc.

The "random lines" topic generates random melody lines according to the various criteria you can set, such as pitch range, number of notes generated, tempo, and key and scale to be used. This time you can only respond via the onscreen keyboard, or using the MIDI keyboard of course.

The final topic involves rhythm and for this Aura generates rhythm patterns based on chosen criteria, including note durations to be used, time signature, tempo, and pattern length in bars. Rhythms are time related, so Aura supplies a metronome click as a time reference. You have to tap out the required rhythm in time with the metronome using the MIDI keyboard or the "Tab" key on the ST's keyboard. Difficulty levels here involve the latitude allowed in timing. Higher levels demand better timing accuracy from you.

PROGRESS TRACKING

If you miss the exercise as Aura plays it, you can ask for it to be repeated. If you're totally baffled you can also ask Aura to show you the answer in standard music notation. Aura keeps track of your right and wrong answers, and also any repeating of exercises, and the statistics can be displayed and printed out at any point to record your progress.

Aura comes with a set of exercises using predefined intervals, chords, and scales. However, you can customise them to allow you to practice any specific problem areas you have. There's not much you can do with intervals except customise their names, but with chords you can enter any required chord into Aura's library together with your own name for it. Scales are treated similarly - you can invent your own if required!

For me Aura has only a couple of shortcomings. I think a non-technical music student or teacher could find it a little intimidating, although this would be overcome with a little practical experience. More seriously, there's no provision for generating exercises containing variation in both rhythm AND melody, an essential requirement in both A-Level music and Grade exams. Otherwise I found Aura a fine piece of software - expensive perhaps, but capable of helping anyone ease the pain of aural training.

Title:	**AURA**
Publisher:	**C-Lab**
Price:	**£115.00**
Reviewer:	**John S Davison**

BARBARIAN II

This game is the follow up to quite an early ST and Psygnosis game called, surprisingly, BARBARIAN. This is not to be confused with the Maria Whittaker sponsored Barbarian hack and slash game. The original Barbarian had Hegor slaying unpleasant creatures in smooth scrolling dungeons and eventually defeating his smarter evil brother. It seems that times were good for a while for this hero until he finds out that, in true Hollywood style, the brother did not die and the software writers wanted more royalties.

In his rush to reach the site of his evil brother's (Necron) resurrection Hegor, the less than bright, has left all his money in his armour at home. His weapons are also unfortunately at Dun Hacking and thus he has to locate new weapons and armour. To do this he needs to locate various brigands, werewolves, gargoyles and other unpleasant forest creatures, severely remonstrate with them, and relieve them of such heavy items as gold and swords. It is fortunate that there are plenty of these around for the blundering Barbarian to offer this service to. With a little care it is not too long until he has a couple of rusty weapons and a few bags of gold.

It is at this point he needs to look round his well drawn environment and discover a way through the wood to find his enemy. Unfortunately this means finding a dungeon to enable him to get back to the town and thence to the castle and the evil Necron. The game features the now de-rigeur parallax scrolling features and also contains a viable collection of enemies. At least this adventure is not complicated by the need to communicate with your foes.



It well behooves the adventurer to find as many keys as possible and to map as far as possible and to aid in this there are pause and save commands included. There are several traps around even in the early parts of the game and if the Barbarian ignores the helpful faery then he is likely to fall in a big way.

It is unfortunate that if the keys are not located early enough then Hegor's quest is doomed, so it is well worth saving the position fairly regularly whenever a major obstacle is overcome. The game is pure Psygnosis style and compares very well to Shadow of the Beast II in so far as it feels more accessible and proves to be far more user friendly.

I wondered at times if the controls offered too many vagaries. It is not easy to make the hero walk up stairs and he sometimes has difficulty managing low strokes with his weapons and these major problems often prove fatal. The game is also sufficiently related to platform and ladder conventions to make transition across some ledges tricky and in need of very skilled timing - most reminiscent of the original game. The Hegor sprite is well animated and looks far more human than the creature from the stablemate Beast II. The enemies are also somewhat better defined and have definite intuitive tactics when faced with the weapon varieties that the Barbarian can come up with. There are even opportunities to interact and obtain hints from various villagers which will help in later stages of the game.

I felt that the first dungeon was hard to master but once the keys are found and the vagaries in control are managed then at least escape back to the village seems possible. Although the loading screens are not as dramatic as those on The Beast they are quicker and, greatly to the game's credit, it is intelligent enough to use both disk drives if present. With a three disk game this saves an awful lot of disk swapping and a great deal of latent frustration.

" a good sequel "

This game has a great deal going for it, most of all it does not take itself too seriously, for while no great literary achievement the accompanying story is informative and entertaining giving the whole game a sound setting. The sound is not obtrusive but it has good and effective spot noises. The plodding gait of the hero maintains player belief that he is a lumbering oaf in the Conan vein. The atmosphere that pervades the game is far more that of a fantasy game and offers the player an escapist hack and slash.

I would applaud this as a good sequel to the original and in a direct comparison to Shadow of The Beast II have to award it the honours as a more entertaining game to spend your money on. Try it and see!

- ***GAMEPLAY*** - *Smooth and fun, the sprites even walk with an attitude*
- ***SIGHT & SOUND*** - *Graphically strong, well coloured and good sprites, musically most acceptable and spot f/x extremely atmospheric*
- ***OVERALL*** - *I liked this. As Hack and Slash goes this is hard enough to be interesting but not so impossible as to be jading*

Title:	**BARBARIAN II**
Publisher:	**Psygnosis**
Price:	**£25.99**
Reviewer:	**Damon Howarth**

PD Paul Rixon's WORLD

SPREADSHEETS

For some reason the spreadsheet has never captured the imagination of home computer users in quite the same way as the database or word processor. Consequently it has acquired an undeserved image as a 'business' tool of minimal interest to the average user. In reality the spreadsheet can be one of the most powerful, time-saving and potentially useful applications in personal computing - a complete solution to any task which involves performing a series of calculations. The only way to find out if you'd benefit from a spreadsheet is to try one, and (as you'd expect me to say ...) the public domain is an ideal place to begin!

AN EXCELLENT STARTER

GEM CALC is a straightforward implementation of the basic spreadsheet and is therefore a good introduction to the subject for those who may not be entirely familiar. The spreadsheet comprises a grid of up to 26 columns (labelled 'A' to 'Z') and up to 999 sequentially numbered rows, but subject to a maximum 5200 cells overall. This is not a great number by 'commercial' standards (K-Spread 3 and VIP Professional can both handle grids of over two million cells, provided there's sufficient memory) but it's more than enough for modest tasks. Obviously you can only see a small part of the sheet on screen at any one time. As its name infers, Gem Calc makes use of drop-down GEM menus for presenting its options to the user. A command line directly beneath the menu displays the contents of the 'active' cell (the one in which the cursor is positioned) and also forms the input area for figures, dates, expressions and text. Underneath the sheet itself is a status line where the spreadsheet width, memory usage and selected functions are reported. You can use the mouse to position the cursor on the visible part of the spreadsheet but to move around the remainder you must utilise either the cursor keys or slider bars. In both cases there are some short cuts to 'jump' over longer distances - these are needed to avoid unnecessary delay, since the sheet is re-drawn completely each time you move.

GEM CALC - not a large spreadsheet - but good for beginners

Each cell in the spreadsheet can contain text, a number or an expression up to a maximum length of 77 characters. A non-display comment can be added here too. An expression may contain the usual mathematical operators, which are treated using the standard priority rules, together with special functions and constants defined by Gem Calc. These can be split into two groups - common mathematical functions (e.g. absolute value, square root, cosine) and those which operate on the contents of other cells (e.g. sum, average, maximum value).

Various control-key combinations allow you to manipulate the sheet in different ways. You can adjust the overall width of the sheet or insert and delete columns and rows. You can search for errors, mark a cell for future use, copy data (updating all references if necessary), sort data and much more. If you need to inspect a large area of the spreadsheet you can switch to a tiny font which enables a hundred characters across and twenty six rows (fifty five in mono) to be fitted on a screen. It's not exactly easy to read though! For leisurely viewing you can print out the data as a screen shot or an entire sheet, assuming you have an Epson compatible printer. Alternatively you can dump the screen to a Degas file. One of the most interesting features of Gem Calc is its graphics section. Data from your spreadsheet is converted into a form suitable for display in various types of graph. Several parameters must be supplied before the transfer is made, and once it's complete the new format can be saved separately to disk. Pie charts, linear plots, strips, stacks, columns, shapes and surfaces are supported. With yet more options on the function keys, it's clear that Gem Calc is a comprehensive product. Although obviously it doesn't offer all the advanced features of full-priced commercial packages, it does have some that the others are lacking!

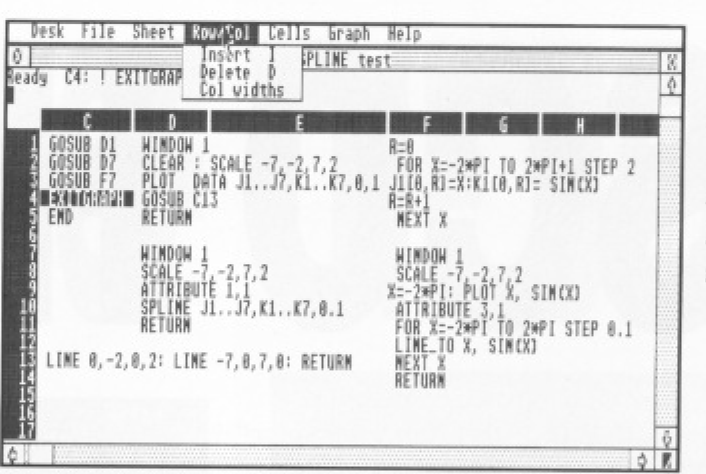
Gem Calc was written using GFA Basic 2.0 and compiled with the GFA Basic Compiler. In case you'd like to know how it's done, the (German) source code is also included on disk. In addition there's an adequate helping of user-documentation with a text-viewer for effortless browsing.

NEED A BIT MORE SCOPE?

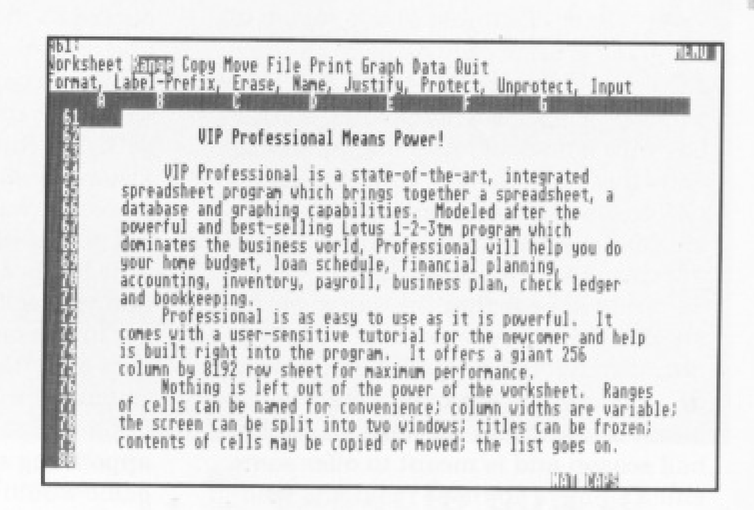
For those who require a more 'advanced' spreadsheet, **SHEET 2.0** is a well-established Shareware package that's got to be worth investigating. It's actually a combination of spreadsheet and Basic interpreter and so provides many powerful features you don't generally find in commercial packages. It may sound like a strange mixture but anyone who's struggled with the macro language of Lotus 1-2-3 should be able to appreciate the benefits. The disk contains an enormous manual (over eighty-four pages worth) which is divided into logical sections and is full of examples and other useful info. To explain all of the commands and options would probably fill the entire maga-

zine, so I'll resist the temptation and simply list some statistics: Sheet will let you have a maximum grid size of 2,549,745 cells depending on memory usage. All of the standard editing facilities are available and of course the unusual bonus is an integral Basic programming language. This has more than fifty commands including the usual IF .. THEN, GOTO and FOR .. NEXT constructs plus file input/output, console and graphics operations. Up to a hundred and fifty variables can be defined in your Basic routines. The functions can be split into mathematical, statistical, financial, matrix, string and miscellaneous categories - around seventy in all. The program has been written using Mark Williams C and should run on any 520 or 1040ST with colour or monochrome monitor. The author, who lives in Boston, would appreciate a registration fee if you intend to regularly use his program. You can't really ask for a fairer deal than that!

If you do find Sheet 2.0 useful you may be interested to know about a supplementary disk called **SHEET FILES** containing a few additions to the main program. This includes printer drivers for the increasingly popular HP Deskjet and Deskjet Plus printers, a phone book utility that's been created with Sheet Basic plus a series of help files that can be loaded into your spreadsheets.



SHEET 2.0 - a large and very versatile spreadsheet that includes a built-in Basic programming language



VIP - the grandaddy of them all and a clone of Lotus 1-2-3. The demo version includes an excellent demonstration of the use of macros that purchasers of the full version will find quite useful

BIG DADDY

One of the first 'big' commercial spreadsheets released on the ST was VIP Professional from VIP Technologies. This was fully reviewed by the Editor in Page 6 issue 22 and is probably familiar to many ST users since at one time it was used by Atari in their 'professional' package deals. However, if you haven't seen VIP before you may want to check out the **VIP DEMO** disk. It contains a version of VIP with certain features disabled - save, move and print among others - but with enough remaining for you to fully appreciate its potential. When you load the program it kicks straight into a demonstration that has been created using the macro facility within VIP. This guides you through the features of the spreadsheet and includes an adventure tutorial plus general information on the subject. The principal 'bonus' point of VIP is simply that it's almost identical to the earlier versions of the best-selling PC spreadsheet, Lotus 1-2-3. On the negative side the GEM version of VIP is rather slow - in fact a faster text-based alternative has also been produced. Of course, there's no shortage of competition in the world of commercial spreadsheets.

ANOTHER LOOK AT EMULATION

Now for a brief update on the totally different subject of XL/XE emulation, which was fully discussed in the PD World column of issue 51. As you may recall, ST XFORMER is a clever program that transforms your ST into an 8-bit Atari, giving you an opportunity to port Atari Basic software onto your ST disks or to type in all those old magazines listings. Creating 'virtual' disks from the 8-bit originals isn't the simplest of tasks so if you'd like to try out the emulator without all this fuss you should check out XFORMER PROGRAMS 1 and XFORMER PROGRAMS 2. These disks contain programs from past issues of Analog Computing magazine, and although some of them may require a bit of imaginative fiddling a good proportion will be up and running on your ST quicker than it takes for a disk to load on the 8-bit! If you missed out on the 'good old days' of 8-bit computing, here's a perfect opportunity to catch up on the fun!

Well that's the end of another PD World. As usual there have been lots of new additions to the Page 6 ST library and they're all described in the Accessory Shop leaflets, so check the box below if you don't have a copy. Next issue we're going to be looking at printer utilities, so if you don't have a printer you'd better buy one quick!

HOW TO GET THEM

All of the disks featured in PD World are available from the PAGE 6 ST library. Each has a unique reference code which you should use when ordering or making enquiries. Please contact PAGE 6 if you don't have a copy of their Accessory Shop leaflets and check the system requirements for each disk. THE PAGE 6 CATALOG DISK containing a full list of disk names and contents is available from the library, priced at £1. The disks referred to in this article are:

ST16 VIP DEMO
ST183 SHEET 2.0
ST365 SHEET FILES
ST426 ST XFORMER
ST594 GEM CALC
ST617 XFORMER PROGRAMS 1
ST618 XFORMER PROGRAMS 2

Prices for standard disks are £2.95 each or £2.50 each for ten or more.
Write to PAGE 6, P.O. Box 54, Stafford, ST16 1DR
Telephone 0785 213928 or FAX 0785 54355 with credit card orders

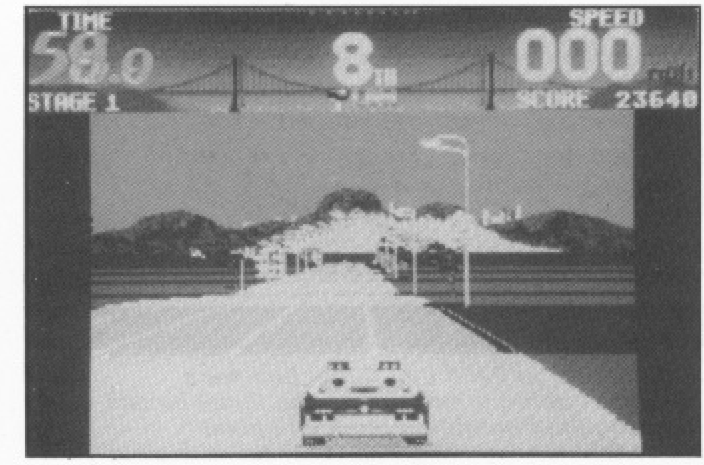
CISCO HEAT

The full title of this game is CISCO HEAT All American Police Car Race. That just about says it all, the game is an arcade game from the Jaleco stable converted to the ST. The packaging is somewhat sparse, a large box with a book of multi lingual instructions that spends more time explaining how to load the game into each of the multifarious machines it works on than in explanation or background.

It would appear that the Japanese have an idea that there is an annual police car race through the streets of San Francisco. This obviously occurs somewhere between the Gridiron season and the Baseball season and is meant to offer some entertainment to those residents who have not had the opportunity to see What's Up Doc?

Upon loading the player is offered the choice of one of two Joystick controlled cars. Despite the fact that they are presented on screen in the manner of a What Car Monthly exploded display there is no real explanation or discussion of the merits of either. The only obvious differences are that one is blue and the other red and that one possibly handles better than the other whilst the second has a great speed advantage.

The loading screen also helpfully explains that pressing the fire button sounds the horn and makes other traffic move out of the car's way. The graphical style is colourful and greatly resembles Out Run with panoramic views being offered to the driver and a host of other drivers to contend with. In common with Out Run it is also necessary to arrive at various staging points within time limits or else find yourself no longer in the race. The cars are only controllable by Joystick and I find this disappointing since the game would have lent itself to mouse control.



The method of controlling the cars is reminiscent of Out Run. Once the race has begun and the player has selected the high or low gear preference there remains the problem of negotiating a way around 'Frisco. This part of the game provides what I can only presume to be a fairly accurate map of the city, at least it has the hills and trolley buses all Hollywood aficionados have come to recognise. It would also appear that the staging points represent actual landmarks around the city. As such the game may have a great deal of appeal to ex-patriot Americans or those who have spent a long holiday in 'Frisco.

The game requires the driver to avoid innocent non-racing vehicles and it encourages the drivers to make sharp turns in front of directional arrows. Strangely the instructions seem to think the city has been closed for the day so that only the police need worry about each other. Sadly they seem to have forgotten to inform the civilians who insist in driving large vehicles across the police car path. Other policemen are intent on ramming you and thus slowing you up and ensuring that stages are not completed. Fortunately the cars do respond well to the joysticks making the avoidance of obstacles a little more possible.

I felt that this game was a fairly blatant copy of the old classic Out Run, I accept that there are a couple of slightly different wrinkles in it such as horn tooting but the graphic presentation and the control system seemed very similar. I actually booted up my own Out Run to see if my feelings were correct and I felt that this was very much the case. If anything Out Run had a smoother feel to it and had a little more guts in the sound effects. Cisco Heat even uses the same marked map device to show how far round the circuit the unsuccessful attempt went.

I found the game offered very little in the way of a lasting interest, and it certainly did not rank incredibly high on the originality stakes either. The game may well have some strange charm to those who like 'Frisco and can remember hot dogs at Candlestick Park or clam chowder on the sea front but as a racing game it feels extremely dated. As a final comment it would be my advice to a potential purchaser to play before buying and to try one or two other games in the same genre, especially Out Run or Out Run II both of which are now budget priced and offer a somewhat more challenging and value for money product. I felt that even the producers were lacking in confidence for the sparsity of comment about the game certainly offers no hint about the lack of content within. This is possibly a game to miss. All I need to know now is when this race takes place so that I can ensure any potential holidays miss the event!

- ***SOUND AND GRAPHICS*** *- these are nothing special, standard smoothish scrolling screen with unexciting music and F/X*
- ***GAMEPLAY*** *- an average offering that does not excite the blood corpuscles or raise the temperature of the player*

Title:	**CISCO HEAT**
Publisher:	**Image Works**
Price:	**£25.99**
Reviewer:	**Damon Howarth**

SHADOW OF THE BEAST II

Here we have the follow up to the enormously successful Shadow of the Beast, one of the strengths of which was the lycanthropic (go on get the dictionary!) nature of the hero. In this sequel he can no longer change shape and is depicted as a rather bent cave man. The plot rests, as do many fantasy sequels, on the creaky premise that all-powerful servants of even more powerful deities do not get second chances thus the evil wizard that was beaten by our hero in the original is instructed to find replacement innocents to calm the master. It just so happens that the eventual winner in the 'pick a victim stakes' is the warrior's baby sister.

Of course this brutish hero being full of filial affection sets out penniless and with his mace to get back the lost sister. The opening credits (which can be avoided) show the abduction by the shape changing wizard in splendid and colourful semi-animation. This loading screen set is impressive and shows a great deal of skill in computer art. The accompanying Midi music is most atmospheric and again full of promise for that which is to come.

The game instructions, which run to eleven lines and a picture of the up/down/left/right uses of a joystick, are all the help the player receives for simple tasks such as interacting with others. This is a game that expects you to hit lots of things very often and occasionally to talk to things before they beat you up. You are hoping to collect enough gold to buy weapons and lives. This game seems to have a great deal of promise especially when the rather exciting parallax scenery is shown giving a great impression of depth and smoothness to the game. Unfortunately the hero sprite is a bit thin on definition being all one colour and semi opaque. At the start of the game it is difficult to spot him hiding behind the tree, it led one of my friends to wonder if he had actually been modelled on a certain grey prime minister!



Gameplay in this is difficult, since there are no obvious clues as to what to ask various people and if you choose the wrong direction the hero finds himself seriously damaged by flying gargoyles and is unable to make sufficient height to hurt them. All my ventures to the left of the screen ended the same way, being pelted to death by aerial bombardment. In the other direction, the inhabitants of the wood seem unable to conduct a conversation that offers any clue as to how to pass them. I believe that there is a cheat mode built in here that gives unlimited energy but the actual type in words are unknown to me. The combat options in the game are also limited and until, or unless, the player finds some secret way to get past the wood guardians death is fairly inevitable very quickly.

While being full of admiration for the scrolling, the smoothness of action and the general responsiveness of the game I feel that this is a beat 'em up for experts and possibly for those with the ability to find the cheat phrase to get through the woods. Despite being an avid adventurer (I've finished Dungeon Master for instance) this seemed to offer no logical clue or help to start. Prospective purchasers should be aware of the potential frustrating time they will suffer.

I also found it somewhat strange that there was more in the manual about how the game was created on an Amiga 2000 and the subsequent extolling of its abilities rather than how to play it on the ST. They also seem somewhat proud of the intelligence of their monsters, perhaps it only goes to show that the machine is now far smarter than the by now depressed reviewer! It is though interesting to note that they feel that state of the art games are produced on 25 megahertz Amigas and PCs using advanced technology. Although the end product is colourful and startling in vividness perhaps the programmers should have given some thought to a gradation of game play?

I sort of liked this game, was impressed by the programming of it but was more than disappointed with the gameplay. This has the hallmarks of too much technical design and not enough grass roots testing. Do try before purchase, and do see if you can make it across more than three screens either side.

" *expects you to hit lots of things very often* **"**

- ***GAMEPLAY*** - *Hard, difficult or impossible - on the other hand smooth and responsive to control*
- ***SIGHT & SOUND*** - *Sound very strong in all departments, graphics generally good, only the hero sprite as a shambling mono coloured Neanderthal is a disappointment*
- ***OVERALL*** - *Far too hard, but a good demonstration of the art and sound capabilities of the ST*

Title:	**SHADOW OF THE BEAST II**
Publisher:	**Psygnosis**
Price:	**£25.99**
Reviewer:	**Damon Howarth**

THE STOS COLUMN

STOS 3D is here at last and Dion Guy includes a full review in his column

Seeing as over the past few months the STOS scene has been pretty quiet, I was quite surprised when a suspicious looking parcel arrived which contained - you've guessed it - the long awaited (and I mean long!) STOS 3D! Also I have news of another STOS written package soon to be released as Shareware - Creative Dungeoneering. Sounds interesting? Full details of that in a moment. In this issue are another two nifty listings for you to type in, a game and a utility. Anyway, as room is tight we shall commence right away with an explanation of both programs.

DICE!

A chap by the name of Ross McNaughton has sent me a little game called Dice. He says that the game was inspired by the screen shot from John Young's 8-bit game in issue 53. Basically, Dice is a computerised version of Yahtzee. Unlike various Yahtzee clones though, this one is actual very easy to use while still being very enjoyable. Dice is for 2 players and is mouse controlled. Even if you do not know the rules of Yahtzee you should pick up how to play soon enough.

To get Dice up and running, you must first design 12 sprites! This isn't as bad as it sounds though, all you have to do is design 2 different coloured sets of dice. Using the colour palette 000, 777, 020, 100, 640, 310, 751, 762, 666, 444, 002, 003, 013, 014, 000, 222 for colours 0-15 correspondingly, design 6 16x16 pixel dice in order, in the sprite bank (i.e. the number 1 face as sprite 1 etc.). Make the first 6 dice white (colour 8). Next copy the 6 dice to sprite numbers 7-12 so that you have 2 sets of dice. Now change the colour of the dice from sprite numbers 7-12 to grey (colour 9). Note that to design a dice you only have to draw one face - i.e. a square with the appropriate number of dots on it (the dots look best if they are black - colour 14). Once you have done this, save the sprite bank, type in the program, load the sprite bank into the program and you're ready to play!

HIRESLOW

This simply(!) converts high resolution Degas format pictures into low resolution Degas format pictures. Type it in, run it, select a picture to convert using the fileselector, wait for it to convert it (you will see it build up the picture on the screen as it is converting it) and the converted picture will be stored in bank 6. Easy!

CREATIVE DUNGEONEERING

CD is a new and original concept conceived by Peter Caddock. With this package you can link up two ST's via MIDI leads and play a sort of interactive adventure game. On the disk supplied you get two programs, one called the PLAYER program and the other called the MASTER program. What happens is one player is at one ST using the PLAYER program and the other is using the MASTER program on the connected ST. It is necessary that either player cannot see the others screen. The player using the PLAYER program will be typing in things just like a normal adventure game, but there is a major difference in the way those commands are handled. Instead of his commands being interpreted by the computer, which in turn prints the appropriate response, the commands are dealt with by the other person on the adjoining ST. The other player (a sort of Dungeon Master) will then send back the relevant message using the MASTER program which consists mainly of menus to click on.

Before serious gameplay can start, an adventure world will have to be created - this is done with a very easy to use designer program and you can design a relatively large world complete with objects etc. in a matter of hours (obviously providing that you have roughly worked out the locations, objects and puzzles etc. previously). If you want you could use the predesigned world which is on the disk.

CD is so incredibly flexible and this is where it's strength lies. The player can do virtually what he likes and he doesn't have to stick to the old "GET KEY", "OPEN DOOR" type of commands. The player could type "OPEN THE DOOR WITH THE KEY THAT IS ON THE TABLE" and the other person would know exactly what he meant. The flexibility is in the MASTER program. Say, for example, that the player is next to a tree, and a location for up the tree hasn't been previously designed. If the player typed "CLIMB THE TREE" the other player could quickly design a new location (using the MASTER program) with the text "You are high up in a sturdy oak tree" or something similar, and then move the player to that

location. As another example, let's say that the player is surrounded by mad aliens from the planet Mars. The player, not being armed, could try something original like "BEAM ME UP" and the other person, if he was of a kind heart, could quickly design the bridge of a certain well known vessel and move the player there, out of harms way. He could then return the player to the main game action by printing a message like "Not being able to put up with your ugly mug for much longer, the captain drops you off at a nearby shopping centre " or something simliar.

To help you with world designing the author has also put an easy to use map designer program on the disk (he's thought of everything!). Another feature of CD is that you can also have (STOS Maestro) sampled sound effects during a game! You could have a phaser fire, an explosive, a creaky door or anything. There is a large bank of SFX supplied on the disk to get you started and the author plans to release further disks of handy sampled sound effects for use with CD.

All in all, CD is an amazing package with enormous potential. Not only that, but it is immensely enjoyable as well! All you need is access to 2 ST's and a pair of MIDI leads to get started. MIDI leads are only about £8 a pair and you could link up with a friends ST.

CD is obviously a 2 player program but the more people there are, the better! If you have a local ST user group or club that you can go to, then CD would surely be very popular! It is a lot more fun if there are several people offering suggestions, and helping both the player and the "master" - it really is a sociable game! I would thoroughly recommend CD to anyone who has the slightest interest in adventure or role playing games. CD should be available from all major PD libraries by the time you read this.

Program 1
DICE!
by Ross Mc Naughton

Program 2 overleaf ☞

```
1 rem *----------------------------*
2 rem :           DICE             :
3 rem *----------------------------*
4 rem :     By Ross McNaughton     :
5 rem *----------------------------*
6 rem :       January 1992         :
7 rem *----------------------------*
8 rem
10 dim DIE(4),GOT(1,15),COUNT(6),FLAG(2),A$(17),SC(1),BONUS(1) : reserve as
screen 5
20 gosub 20000 : locate 0,6
22 pen 7 : paper 3 : centre "              CLICK TO PLAY              " : while mouse
key=0 : wend
23 screen copy 5 to back : screen copy back to logic : for I=0 to 1 : SC(I)=0 :
BONUS(I)=0 : for J=1 to 15 : GOT(I,J)=0 : next J : next I
25 for TURN=1 to 15 : for PLYR=0 to 1 : locate 0,6 : paper 3 : centre "
Player"+str$(PLYR+1)+"                 " : print : centre "                "
30 gosub 15000 : gosub 16000
40 next PLYR : next TURN
60 locate 0,6 : pen 7 : paper 3 : if SC(0)=SC(1) then centre "            Match
Drawn          "
61 if SC(0)>SC(1) then centre "              Player 1 Wins              "
62 if SC(1)>SC(0) then centre "              Player 2 Wins              "
65 print : goto 22
999 end
4999 rem -* Calculate scores *-
5000 for I=0 to 2 : FLAG(I)=0 : next I : for I=1 to 6 : COUNT(I)=0 : next I :
for I=0 to 4 : COUNT(DIE(I))=COUNT(DIE(I))+1 : next I
5002 TT=0 : GOT(PLYR,SEL)=1 : on SEL goto
5010,5010,5010,5010,5010,5010,5070,5080,5090,5100,5110,5120,5130,5140,5150
5010 TT=COUNT(SEL)*SEL : return
5070 for I=1 to 6 : if COUNT(I)>1 then TT=2*I
5071 next I : return
5080 for I=1 to 6 : if COUNT(I)>1 then if FLAG(0)>0 then FLAG(1)=I else
FLAG(0)=I
5081 next I : if FLAG(0)>0 and FLAG(1)>0 then TT=2*(FLAG(0)+FLAG(1))
5082 return
5090 for I=1 to 6 : if COUNT(I)>2 then TT=3*I
5091 next I : return
5100 for I=1 to 6 : if COUNT(I)>3 then TT=4*I
5101 next I : return
5110 for I=1 to 5 : if COUNT(I)=1 then FLAG(0)=FLAG(0)+1
5111 next I : if FLAG(0)=5 then TT=15
5112 return
5120 for I=2 to 6 : if COUNT(I)=1 then FLAG(0)=FLAG(0)+1
5121 next I : if FLAG(0)=5 then TT=20
5122 return
5130 for I=1 to 6 : if COUNT(I)=3 then FLAG(0)=I
5131 if COUNT(I)=2 then FLAG(1)=I
5132 next I : if FLAG(0)>0 and FLAG(1)>0 then TT=(3*FLAG(0))+(2*FLAG(1))
5133 return
5140 TT=DIE(0)+DIE(1)+DIE(2)+DIE(3)+DIE(4) : return
5150 for I=1 to 6 : if COUNT(I)=5 then TT=50
5151 next I : return
9999 rem -* Roll dice *-
10000 for I=1 to 20 : for J=0 to 4
10010 if DIE(J)<10 then DIE(J)=rnd(5)+1 : sprite J+1,90+(31*J),28,DIE(J)
10020 next J : wait 4 : next I
10030 return
14999 rem -* Dice for one round *-
15000 gosub 10000 : paper 3 : pen 6 : locate 0,6 : centre "     LEFT-CLICK TO
HOLD/RELEASE     " : print
15010 centre "RIGHT-CLICK TO ROLL DICE"
15012 limit mouse 0,25 to 319,45
15015 for Q=0 to 1
15020 while mouse key<2
15030 if mouse key<>1 then 15020
15040 K=5 : for Z=1 to 5 : if collide(Z,15,15)=1 then K=Z-1 : bell
15045 next Z : if K=5 then 15070
15050 if DIE(K)<10 then sprite K+1,90+(31*K),28,DIE(K)+6 : DIE(K)=DIE(K)+10 :
wait 6 : goto 15065
15060 DIE(K)=DIE(K)-10 : sprite K+1,90+(31*K),28,DIE(K) : wait 5
15065 while mouse key=1 : wend
15070 goto 15020
15080 wend : if DIE(0)>10 and DIE(1)>10 and DIE(2)>10 and DIE(3)>10 and
DIE(4)>10 then Q=2 else gosub 10000
15085 next Q
15090 for Q=0 to 4 : if DIE(Q)>10 then DIE(Q)=DIE(Q)-10
15100 sprite Q+1,90+(31*Q),28,DIE(Q) : next Q : return
15999 rem -* Choose score line *-
16000 locate 0,6 : centre "SELECT A SCORE LINE THEN LEFT-CLICK" : print : centre
"        TO ENTER SCORE           "
16010 limit mouse 0,64 to 319,191
16020 SEL=0 : while (mouse key<>1 or SEL=0)
16025 SEL=zone(0) : if SEL<>OLD and OLD>0 then gosub 18100
16026 if SEL<>OLD and GOT(PLYR,SEL)=0 then gosub 18000
16030 if GOT(PLYR,SEL)=1 then SEL=0
16100 OLD=SEL : wend : gosub 18100 : gosub 5000
16105 if TT>0 then bell else shoot
16110 locate 29+(PLYR*7)-len(str$(TT)),Y+7 : pen 1 : paper ((Y+7) mod 4)+10 :
print TT; : pen 7
16120 if SEL<7 then BONUS(PLYR)=BONUS(PLYR)+TT : if BONUS(PLYR)>62 then
BONUS(PLYR)=0 : SC(PLYR)=SC(PLYR)+50 : paper 12 : locate 27+(PLYR*7),14 : print
"50";
16130 SC(PLYR)=SC(PLYR)+TT : paper 10 : locate
29+(PLYR*7)-len(str$(SC(PLYR))),24 : print SC(PLYR);
16140 return
18000 if SEL<7 then Y=SEL else Y=SEL+1
18010 pen 7 : paper 5 : locate 1,Y+7 : print A$(Y) : return
18100 Y=OLD : if OLD>6 then Y=Y+1
18110 pen 1 : paper ((Y+7) mod 4)+10 : locate 1,Y+7 : print A$(Y) : return
19999 rem -* Set up screen *-
20000 mode 0 : key off : curs off : flash off : change mouse 2 : hide
20010 A=hunt(start(1) to start(1)+length(1),"PALT")+4 : for I=0 to 15 : colour
I,deek(I*2+A) : next I
20015 centre "DICE" : locate 11,2 : pen 8 : print "By Ross McNaughton"
20020 ink 2 : bar 0,25 to 319,46
20022 ink 3 : bar 0,47 to 319,63
20025 for I=8 to 24 : ink (I mod 4)+10 : bar 0,I*8 to 319,I*8+7 : next I
20030 for I=8 to 24 : pen 1 : paper (I mod 4)+10 : locate 1,I : read A$(I-7) :
print A$(I-7); : next I
20040 data " Ones            "
20041 data " Twos            "
20042 data " Threes          "
20043 data " Fours           "
20044 data " Fives           "
20045 data " Sixes           "
20046 data "                 Bonus"
20047 data " Pair            "
20048 data " Two Pair        "
20049 data " Three Equal     "
20050 data " Four Equal      "
20051 data " Small Straight  "
20052 data " Big Straight    "
20053 data " Full House      "
20054 data " Chance          "
20055 data " Yahtzee         "
20056 data "                 Total"
20060 show : screen copy back to 5
20070 set zone 1,0,64 to 319,71 : set zone 7,0,120 to 319,127
20071 set zone 2,0,72 to 319,79 : set zone 8,0,128 to 319,135
20072 set zone 3,0,80 to 319,87 : set zone 9,0,136 to 319,143
20073 set zone 4,0,88 to 319,95 : set zone 10,0,144 to 319,151
20074 set zone 5,0,96 to 319,103 : set zone 11,0,152 to 319,159
20075 set zone 6,0,104 to 319,112 : set zone 12,0,160 to 319,167
20076 set zone 13,0,168 to 319,175 : set zone 14,0,176 to 319,183
20077 set zone 15,0,184 to 319,191
20099 return
```

STOS 3D

At last it's been released! The most awaited program since the STOS Compiler! Anyway, enough hype - let's get down to business. STOS 3D comes with 2 disks, a manual and a quick reference card. One of the disks contains the installation program and also a variety of 3D demos, while the other disk contains the heart of STOS 3D, the Object Modeller (or OM for short). Using OM you can create 3D objects for use in STOS.

OM is surprisingly easy to use, and is also quite fast - you don't have to wait around for objects to be displayed etc. Using a wealth of options, you can create almost any object using the 5 basic blocks provided. There are 3 flat "blocks" and 2 3D blocks that can be used. The flat blocks would come in handy for things like wings on a plane. The 2 3D blocks are a cube and a pyramid and using these you can construct objects galore. There are options to stretch and generally change the shape of any of the 5 preset blocks, thus allowing you to get the shape you want. You can join blocks to other blocks to form as complex an object as you like. There is also another good option which allows you to add surface detail to your objects. Using this you could put words or logos on objects and add damage to items if they have been hit etc. With OM you can even add transparent windows to objects so that so can see objects within other objects! There are so many options it would be impossible to list them all here but I think you get the general idea that OM is easy to use, flexible and doesn't take forever to do things.

TACKING IT ON

Now the other part - the STOS extension. STOS 3D starts off on a bad note when you realise that the 3D extension itself takes up 87K and that in a program you also have to reserve anything from 50K-200K for the objects. All this plus the amount of K your program itself uses would make using STOS 3D a tight squeeze for 1/2 meg users. If all other extensions are removed and STOS is AUTO booted, then it may just be OK. The 3D extension adds 27 commands and 10 functions to STOS. Using these you can display the 3D objects and manipulate them to your hearts content. You can move and animate the objects quit easily. The speed of the 3D is very fast but not as fast as commercial 3D games, as the package claims. STOS 3D is fast enough to create enjoyable games but don't expect to have a load of objects moving about on the screen at lightning speed. One of the best parts of the package is the manual. The 104 page manual(!) is excellently presented and is very well written which enables you to get to grips with things straight away. It takes you through things step by step which is definitely needed for something as complex as 3D.

```
1 rem *** Hi Res picture to Low Res - Bruno Azzara  GBP '92 ***
10 key off : mode 0 : curs off : auto back off
20 palette $777,$666,$444,$222,$0 : MEM=start(5) : SCR=physic : NL=80
30 F$=file select$("*.pi3","Select Hi-Res picture to convert",1)
40 load F$,5 : hide on
50 OUTLOOP=200 : repeat
60 MIDLOOP=20 : repeat
70 L1=leek(MEM) : L2=leek(MEM+NL) : MEM=MEM+4
80 BITCOUNT=31 : P1=0 : P2=0 : P3=0 : repeat : COL=0
90 if btst(BITCOUNT,L1) then inc COL
100 if btst(BITCOUNT,L2) then inc COL
110 dec BITCOUNT
120 if btst(BITCOUNT,L1) then inc COL
130 if btst(BITCOUNT,L2) then inc COL
140 SETBIT=BITCOUNT/2
150 if btst(2,COL) then bset SETBIT,P3
160 if btst(1,COL) then bset SETBIT,P2
170 if btst(0,COL) then bset SETBIT,P1
180 dec BITCOUNT : until BITCOUNT<0
190 doke SCR,P1 : doke SCR+2,P2 : doke SCR+4,P3
200 SCR=SCR+8
210 dec MIDLOOP : until MIDLOOP=0
220 MEM=MEM+NL
230 dec OUTLOOP : until OUTLOOP=0
240 reserve as datascreen 6 : screen copy physic to 6
250 default : print "Done." : end
```

PROBLEMS

Now all this is fine but there are a few things that let down the whole package. One of the major problems is the fact that every time you run your program, you have to load in your objects. It is bad enough if you have one object in your program, as this will take anything from 3-6 seconds to load, but if you have any more then it would mean a lengthy wait each time you alter a little bit of your program. Why they couldn't design 3D objects to load in and stay loaded in, like sprites, music, screens, sampled sound etc., is beyond me. The only way round it that I can see is if you use the STOS ram disk that came with the STOS Compiler and load all your objects into that before you load STOS. However this is still a bit of hassle and is only really viable for 1 meg users. Of course, if you own a hard disk drive then this problem is greatly reduced, but then again how many people own a hard disk drive? If you are going to create a full game with STOS 3D then you will need enormous patience.

The next biggest problem I came across is that there is no easy way to have a floor, or ground, in STOS 3D. If you are doing a flight simulation for example, then a ground would be essential - but there is no facility for such a thing using the STOS 3D commands. You would have to create a moving ground with a horizon etc. yourself. The last thing that I find a bit odd, although not really a major problem, is that you are limited to using 20 object numbers in a program.

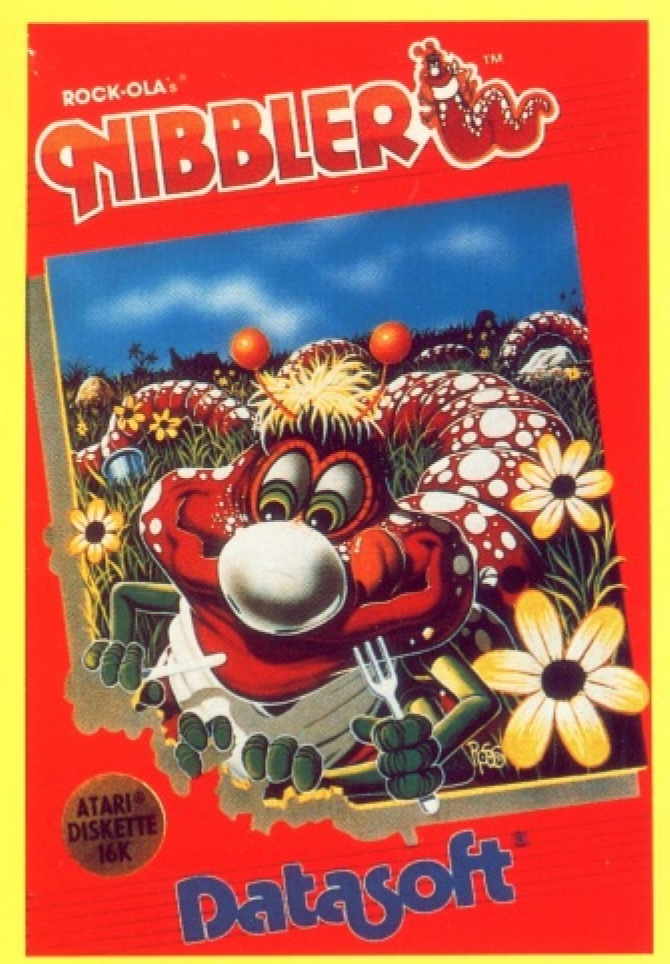
When you are wandering around a large 3D world, you expect to see more than just 20 objects. You can actually kill off an object if it is not visible, to free up it's object number for another object, but this would all get a bit complex when trying to write a game.

STOS 3D should be in the shops as you read this and can be purchased for the reasonable sum of £35. All in all I would recommend 1 meg users or hard disk drive owners to get this straight away - it is on the whole an excellent package. However, for 1/2 meg users I can see a lot of major difficulties that would be involved in writing anything worthwhile. If you just want to have a tinker about with 3D and have the money to spare - great, go and get it. But if you are planning to write a full blown game in 512k, I think it would be nigh on impossible unless you have incredible patience.

•••••••

So, we come to the end of another column. If you want me to cast my critical eye over a stunning new package that you have written - send it in for review! Remember, if you want anything returned to you please include an S.A.E. I'm always prepared to answer STOS questions and the like, so if you have any problems - write in (with an S.A.E!). As usual, I can be found at the following address. Bye for now!

Dion Guy
STOS Column
11 Shore Crescent
Bishops Waltham
Hants
SO3 1DZ



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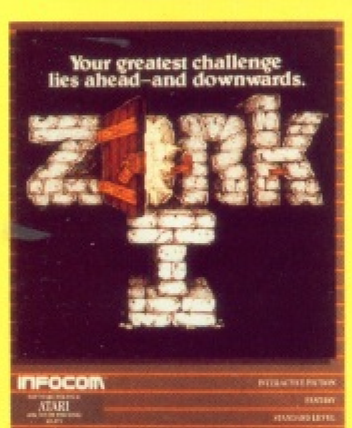
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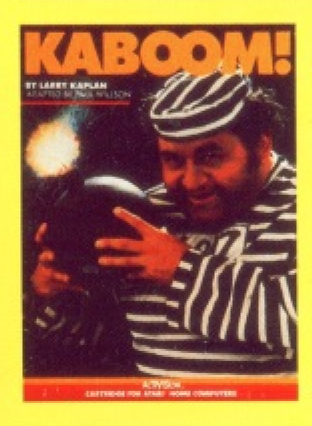


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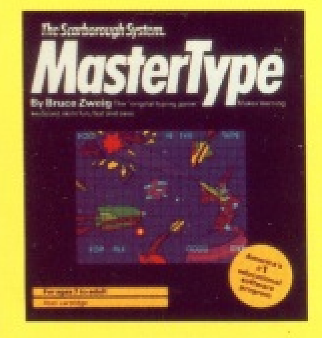


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Check out the review in Issue 49. Paul Rixon found this simple game to be quite addictive and at this price can you afford not to become addicted! It's a different type of game, more in the Tetris mould than an arcade game. It sure makes you think and the price won't break you if you don't get fully hooked.

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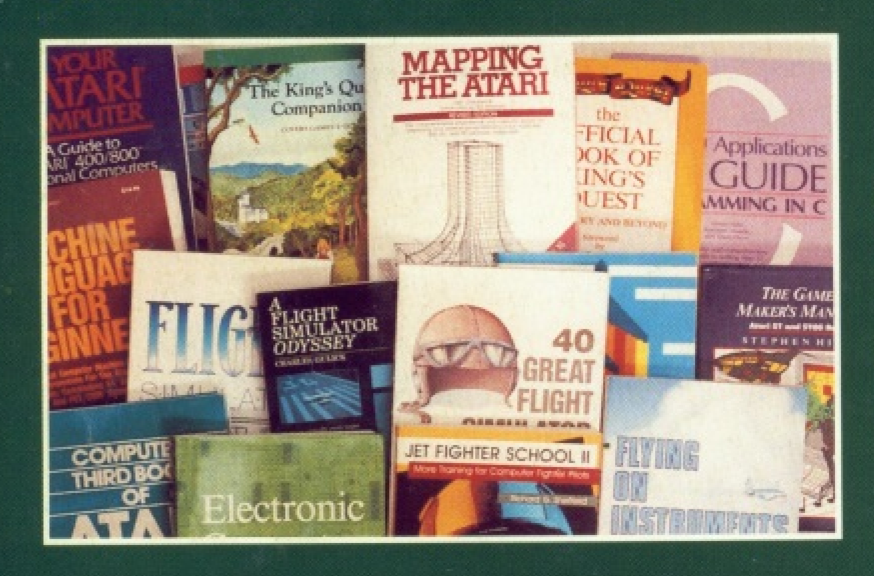


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